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Lincoln University curriculum

and the Sustainable Development Goals

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Abstract

Lincoln University Curriculum and the Sustainable Development Goals

by

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In 2015, the United Nations agreed on a set of "Sustainable Development Goals" (SDG) to be achieved by 2030. They represent a strategy requiring actions to address the growing economic, social and environmental challenges facing both developed and developing countries. Authors have emphasised the importance of intersectoral understanding and critical thinking to achieve the goals (Gough & Longhurst, 2018). Education is crucial in realising the SDGs, and higher institutions may play a critical role in managing global issues through the knowledge, skills and values that they instil in future generations. This research examines Lincoln University's educational programmes with respect to the SDGs. The method involved the iterative application of an established Curriculum Framework for the SDGs to Lincoln University's curriculum. Qualitative content analysis was adopted to analyse the data and the coverage of the SDGs within core degree programmes from each faculty: the Bachelor of Landscape Architecture, Bachelor of Commerce, and Bachelor of Agriculture. The research assesses the University's contribution to creating a more sustainable future through these programmes, showing interconnections between sectors, identifying gaps and proffering areas for improvements. The results illustrate the utility of the framework in identifying strengths and weaknesses of curricula in providing the knowledge and skills needed to facilitate sustainable development. In addition to providing a baseline assessment of these degrees against the SDGs, the research demonstrates the potential of the Framework to be used as a tool for measuring and monitoring the progress of universities in providing education that advances the SDGs.

Keywords: Sustainability, Sustainable Development Goals, Higher Instituition, Curriculum SDGs Framework, Skills, Knowledge, Values, Attributes, Mapping, Curriculum, Graduate Profile, Core Courses.

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Chapter 1

Introduction

1.1 Global issues

Nations are experiencing issues that threaten present and future life on this planet and which cannot be solved independently (Hite & Seitz, 2016). These issues have accumulated and have led to increasing global environmental and social justice concerns, giving rise to the idea of sustainability that is geared towards promoting a sustainable society (Dresner, 2002). Over recent decades, a growing number of debates, consultations, and conferences have sought to identify and facilitate more sustainable patterns and developmental processes in order to overcome global challenges (Salvia, Filho, Brandli, & Griebeler, 2019; Elliott, 2013). According to Kumar, Kumar and Vivekadhish (2016), interest in global and international development has been at the core of the United Nations agenda since inception in the 1940s, but until the 1980s the approach was incoherent; and attempts to integrate consideration of environmental, economic and social issues were only set in motion by technical agencies at summits and conferences.

1.2 United Nations' Conferences

In 1972, the United Nations Conference on the Human Environment, also known as the Stockholm Conference, was held at Stockholm, Sweden. Participants at the Conference agreed upon a declaration containing 26 principles, an action plan, and funding to protect and preserve the human environment (United Nations, 1972; Sohn 1973, Willetts 1996, Seyfang 2003). A resolution was agreed to adopt participatory process, and involve the public as well as the scientific community, in all actions to manage and solve environmental problems (United Nations, 1972). This conference led to the establishment of ministries for the environment in governments around the world and the creation of the United Nations Environment Programme (UNEP) (Palmer 1992).

The phrase 'Sustainable Development' appeared in the World Conservation Strategy of 1980 (Dresner, 2002) and was defined by the World Commission on Environment and Development (WCED) through its Brundtland report, named Our Common Future (WCED, 1987). The concept of sustainable development has grown over time to incorporate ecological/environmental, social and economic sectors, with emphasis on assigning all three dimensions equal weight and value (Khoo & McCloskey, 2015).

Twenty years after the Stockholm Conference, the United Nations held a follow up conference in June 1992 in Rio de Janeiro. Called 'The Earth Summit', its purpose was to propose strategies and solutions to environmental and developmental issues for a sustainable future (Ranee & Panjabi 1992; McCarthy 1993). The Rio Declaration set out some new principles to achieve the aim (McCarthy 1993). In his assessment of

the Earth Summit, Khor (2012) argues that participants were of the opinion that although the Summit may not have obtained its targeted aims and objectives on global environmental issues, it was not a total failure. Palmer (1992) had earlier expressed a similar opinion that there were some accomplishments favourable to the world's environment.

Following a number of subsequent meetings and declarations on sustainability, in 2000, the Millennium Declaration at the Millennium Summit at the UN headquarters in New York, led to the elaboration of eight Millennium Development Goals (MDGs) expected to be achieved in 2015 (UN Millennium Declaration 2000, Pogge 2004, Bangha, Diagne, Bawah, & Sankoh 2010, Friedman 2013). In 2002, the World Summit on Sustainable Development in Johannesburg reviewed outcomes of past conferences and deliberations and agreed that effective measures would be needed to improve human life, increase economy and conserve natural resources with emphasis on multilateral partnership (La Viña, Hoff, & DeRose, 2003; Von Frantzius 2004; Scherr & Gregg 2005). In 2012, the Rio+20 conference was held; it presented a report titled 'The Future We Want' with consensus and negotiations towards Sustainable Development Goals seen as actions and a roadmap for the post-2015 agenda (Stevens & Kanie, 2016; Buckler & Creech 2014; Leal Filho, Manolas, & Pace. 2015).

The numerous conferences and declarations were designed not only to tackle growing globalised world transformations and complex challenges arising from the broad range of issues such as global warming, climate crises, economic recession, inequality, poor health, and education (Elliott, 2013; Orzes et al., 2018), but also to equip a greater number of global citizens with knowledge and expertise to tackle these challenges (Brand & Karvonen 2007; Gaventa & Cornwall 2008). The significant challenges were observed to have increased rapidly over time as argued by Rockström et al. (2005).

1.3 Millennium Development Goals (MDGs)

In the early 1990s, collaboration among nations increased, and development organizations closed ranks and worked in partnerships to establish the Millennium Development Goals (MDGs) (Kumar, et al., 2016). The MDGs were established to address the need for member countries to collaborate across many sectors to solve global problems (El-Jardali, Ataya & Fadlallah, 2018). The major focus of the goals was on poverty reduction, gender equality, development and aid distribution within developing countries, and according to Robert, Parris, & Leiserowitz, (2005), they were funded by rich countries to reduce extreme poverty, increase education and protect the planet. The MDGs covered the period 2000-2015, and their strength was their straightforward, accountability and result-oriented goals which made it possible to re-kindle interest in development issues and its corresponding aid requirements (Loewe, 2012). The MDGs made significant progress in tackling some issues such as reduction of the number in …

> *"extreme poverty from 1.9 billion in 1990 to 836 million in 2015, and child death reduction from 12.7 million in 1990 to almost 6 million in 2015 globally"* (The

Millennium Development Goals Report, 2015, as cited in Muff, Kapalka and Dyllick, 2017 p 363).

Yet, Loewe (2012) argues that limitations of the MDGs included their limited coverage of both multidimensional poverty eradication and environmental protection, and their omission of peace, security, disarmament as well as human rights, democracy, and good governance. According to Muff et al. (2017), the effect of these limitations is visible in the Global Footprint Network's 2016 data, which showed that humanity's ecological planetary overshoot had grown from 36% to 64% between 2000 and 2012, and the income gap between rich and poor in most OECD countries reached its highest levels in 2014.

A review of the MDGs showed substantial progress was made in addressing poverty, hunger and disease, but at the expiration of the MDGs in 2015, there was need for an all-inclusive policy that affected not just the developing countries (Rockström, et al. 2005; Sachs 2012). Beyond the MDGs, sustainable strategies that support the environment, society and economy were required, especially as the world battles climate change and other environmental issues which jeopardizes the planet (Placet, Anderson & Fowler 2005; Ghosh, 2015; Hajer, et al. 2015; Geissdoerfer, MSavaget, Bocken, & Hultink 2017; Rowledge, et al. 2017). As the environmental issues intensified, world leaders' awareness of the need to address global sustainability increased, and this contributed to the emergence of a new agenda called the Sustainable Development Goals (SDGs) (Ghosh, 2015; Hajer, et al. 2015)

1.4 The Sustainable Development Goals

In 2015, the General Assembly committed to a 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (SDGs) (United Nations Department of Economic and Social Affairs Disability, n.d).

As outlined by the United Nations (2015b, p18), the 17 SDGs were:

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

For each global goal, there are specific targets and indicators to monitor and measure its implementation (Charlton, Frank, & Reeves, 2018; Nhamo, & Mjimba, 2020). The goals are interconnected and interlinked with one another, as well as their network of targets. Figure 1.1 is a visual representation of some of this interconnection shown by the large coloured labelled circles and some associated targets shown by the small numbered circles.

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Figure 1.1 Interlinkages between the Sustainable Development Goals (shown by the large coloured circles) and some of their associated targets (shown by the small numbered circles) (From Le Blanc, 2015 p.179)

The SDGs are divided and grouped to address five (5) critical and priority areas, which are people, planet, prosperity, peace and partnership, with a main purpose of continuously tackling and managing global issues (Morton, Pencheon, & Squires, 2017; Charlton, et.al 2018; Nhamo, & Mjimba, 2020).

The SDGs builds on the MDGs with additional goals, and are to be implemented by all countries; they are expected to reflect the MDGs, complete unfinished goals, refocus on priorities and strengthen sustainability in economic, societal, and environmental context (Griggs et al., 2013; Gore 2015; Kumar et.al., 2016). They aim to help the world transition to a more sustainable system, creating an integrative agenda that includes a balance of sustainable environmental objectives, social requirements, and socioeconomic concerns (Griggs et al. 2013; Sachs, 2012).

The transformative SDGs prospect, long term impact on development, and the urgency of their implementation to meet the 2030 Agenda have motivated reorientation within institutions' operational systems (Gough & Longhurst, 2016). In the business sector, in an attempt to demonstrate Corporate Social Responsibility (CSR) and transparent accountability in reporting, and to achieve sustainability, corporate bodies and institutions have adopted a range of different approaches (Bhargava, 2020), moving from a narrow focus of just actualizing the business financial goals towards a broader holistic view of sustainable thinking in tackling global issues, improving and maintaining their institutional goals (Consorte-McCrea, Griggs & Kemp, 2018). Griggs, Nilsson, Stevance and McCollum (2017) argue that the importance of having an effective implementation process and support to address the scope and systematic nature of the 2030 Agenda cannot be overemphasised, as it requires a wide range of tools, knowledge and expertise to navigate that complexity and to realize the ambition.

1.5 Education in support of the goal

Across the globe, efforts are being made in various sectors, institutions, and countries to achieve the SDG goals. Education institutions have the potential to make a positive change globally by shaping the attitudes of individuals (Bhargava, 2020), and providing critical thinking skills, knowledge and expertise (Khoo & McCloskey, 2015; Piasentin & Roberts, 2018) through their teaching, practices, and advocacy roles to meet the SDGs' requirements.

Furthermore, Khoo and McCloskey (2015) regards educational institutions as possessing both the vision of sustainability and processes towards it, and thus through their sustainable teaching can offer a wholesale change. Educational institutions are designed as a citadel of learning and innovative research, serving as a community of people who possess the range of backgrounds required to support effective implementation of the SDGs (Osman, Ladhani, Findlater, & McKay 2017). Students usually arrive at higher institutions with growing interest in global issues, seeking the knowledge they lack on how to tackle these issues as well as how to become responsible global citizens who value and respect human life, gender equality and environmental sustainability to mention a few (Suárez-Orozco & Sattin 2007; Stearns 2009). Educational curricula which build understanding of global issues will contribute towards effective citizenship, and better social and personal life (Braskamp, 2008; Stearns, 2009). The need to recognise global issues and how to tackle them in education teaching system applies across all disciplines within curriculum as this increases local, global and international competences. (Noddings, 2005; Bhargava, 2006; Bourn, 2010)

A large number of educational institutions have taken measures to contribute to the achievement of a sustainable future by identifying their potential and actual contributions, simultaneously re-orienting their education systems, research, and operations as well as their community outreach activities (Wals, 2014). More research and continuous efforts are being made to measure contribution to the SDGs, improve systems and reshape structures in order to contribute to a sustainable future. Most New Zealand universities are reporting their performance against SDGs in some way, for example via The Times Higher Education ranking of universities which invites universities to self-report their actions to achieve the SDGs. Auckland University, for instance has been ranked as the world leading university in delivering on the SDGs in both 2019 and 2020 while Lincoln University ranked 9th globally in 2020 on SDG Goal 2, Zero Hunger with an 84.5% grade. (The Times Higher Education 2020). These rankings are based on a combination of means of contributing (e.g., research, operations) not just the curriculum, but it is through curriculum that they are most influential on their students. Therefore, being able to measure the linkage of curriculum to the SDGs might enable better targeted curricula.

1.6 Definition of basic concepts

For the purposes of this dissertation research, the following definitions of key concepts have been adopted.

- Sustainable Development: There are many different definitions of Sustainable Development among researchers, institutions, and individuals. For this research, the definition by Brundtland (1987) has been adopted. Sustainable development is defined

  > *"as meeting the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs"* (Brundtland 1987 p.292)

  According to Keiner (2006), sustainable development is expressed as a non-declining economic, social and ecological ecosystem in which the future should be at least as well off in resources as the present. Rao (2017) argues that sustainable development requires a wide comprehensive knowledge of human, environmental and social perspectives covering spheres of values, attitudes and behaviours. Despite the variety of definitions, most involve a composition of social involvement, economic growth and environmental sustainability (Dresner, 2002).

- The Sustainable Development Goals (SDGs): A set of objectives within a universal agreement to end poverty, protect all that makes the planet habitable, and ensure that all people enjoy peace and prosperity, now and in the future, adopted by member states of the United Nations in 2015 with an expected implementation within fifteen years (Morton, et.al., 2017).

- Curriculum: A formal syllabus that stands as a baseline foundation of learning standards for students and as a guide to teaching within an education system. This may be set out in a document which outlines substantial knowledge expected to be gained by a student (Miller & Seller 1985).

- Higher Institutions: Tertiary organizations, usually universities and colleges, which comprise of staff (academic and non-academic) of various professions and students of a wide range of disciplines and inter-disciplinarities exercising different roles within the educational environment (Meyer, Ramirez, Frank, & Schofer, 2007).

- Graduate Profiles: Formal documents that include academic content and expected outcomes outlining skills, knowledge, values and attributes required for completion of a field of study within an educational institution (Moulton & Johnson, 2010).

1.7 Case Study

Lincoln University curricula form the case study for this research. The university is uniquely known for its land-based specialization, according to the University's mission outlined on its website (Lincoln University, n.d). In addition to its specialization, the institution also houses various disciplines which have linkages to

supporting agenda for the goals. The institution has a commitment and interest in leading and promoting global sustainable practices (Lincoln University Annual Report, 2018). A critical review of the curriculum and its contribution to sustainable development goals will help to meet the University's stated goal of integrating sustainability throughout its teaching in an effort to graduate world citizens (Lincoln University Sustainability Policy, 2017).

Lincoln University annually awards degrees to graduates and has an aspiration to be amongst the best land based university in the world (Lincoln University Annual Report, 2019); hence it is necessary to assess the skills, vital knowledge and values imbibed by the students who will become future academics, citizens, managers and policy makers.

Based on the assumption that the University is successful in its stated education goals, this review will identify how equipped graduates are to face and tackle global challenges with regards to SDGs and their competencies for sustainable global citizenship and will inform recommendations for improvements, change or amendments where necessary. The review could also be used as a reference document for reporting and the research method could be adopted by Lincoln and other universities who intend to map their curricular content over the SDGs.

1.8 Research Objectives/Questions

In relation to education in support of the Sustainable Development Goals, this dissertation through qualitative methodology seeks to address the following objective:

- To explore if and how Lincoln University's curricula contribute to meeting the SDGs.

The objective gave rise to the main questions specified below.

- Do the graduate profiles and core courses of Lincoln University Bachelor's degrees, in particular the Knowledge, Skills and Values specified in the Learning Outcomes for each degree and course, link to the SDGs?

- Do the results suggest any weaknesses or gaps in the Lincoln University curriculum with respect to equipping students to address the SDGs?

Chapter 2

Literature Review

Sustainable Development Goals address virtually all aspects of life (Aarts, Greijn, Mohamedbhai, & Jowi, 2020) and cannot be achieved through the effort of only one discipline. Existing and emerging global challenges are usually complex (Scholz, Mieg, & Weber, 1997) and require integrative competencies (Barth & Timm, 2011). The interdisciplinary knowledge and skills obtained within the university system (Junyent, & de Ciurana, 2008; Kastenhofer, Lansu, van Dam-Mieras, & Sotoudeh, 2010; Barth & Timm, 2011) proffer varieties of perspectives and solutions to global issues (Paletta et al., 2019).

This chapter will review the literature on education for SDGs through academic teaching. It explains curriculum function and the approaches adopted to understand the support they provide to the implementation of the SDGs. Since this research is examining a university's teaching curriculum, it is vital to understand how higher education helps the SDGs and how much support tertiary institutions offer to achieving them. Section 2.1 presents an overview of what academic training incorporates, section 2.2 explains the role of Universities in the context of Sustainable Development Goals, section 2.3 will focus on the remarkable change and multidisciplinary functions of higher education, while section 2.4 elaborates on various methods adopted by universities to show interlinkage of their curriculum in support of the SDGs within New Zealand and overseas and lastly section 2.5 present information on Lincoln University and sustainability

2.1 Academic training and the SDGs

In academic training, many university students envisage gaining degree awards, employable skills, personal satisfaction, environmental and social problem-solving ability and hopefully, responsible character (Borges, Ferreira, de Oliveira, Macini, & Caldana, 2017). Such training supports positive societal and environmental changes that correlate strongly to what the SDGs seek to achieve (Ramos et al., 2015; United Nations, 2015b). The correlation between academic teachings and sustainability are majorly traced to enriched curricular sustainability content approached through holistic strategies (Cortese & Hattan, 2010; Ryan & Tilbury, 2013a, 2013b). This pedagogy makes students more likely to independently adopt sustainable practices (Shiel, Smith, & Cantarello, 2020). The theoretical curricular content is envisaged to be implemented in daily practices known as knowledge distillation within various engagements (Gough & Longhurst, 2018), which according to Zamora-Polo & Sánchez-Martín (2019) and Zamora-Polo, Sánchez-Martín, Corrales-Serrano & Espejo-Antúnez (2019) is expected to reflect critical skills, moral behavioural standards, ethical values, norms and well-informed decisions to support the SDGs.

2.2 The role of Universities in the context of the Sustainable Development Goals

Education is a crucial sector for future generations and responsible for developing knowledge, skills, and character to support sustainable business and society (Bhargava, 2020). High-quality education builds transversal core competencies, equips individuals to make positive changes, and attain excellence when faced with both the present era and future global demands (Kare, 2020). The role of universities as catalysts of change is crucial to not only the SDGs but also to their specific targets (Gough & Longhurst, 2016).

Universities have a longstanding function to increase human capital, research, knowledge and expertise with great societal impact (Brugmann et al., 2019; Stephens & Graham, 2010; Müller-Christ et al., 2014; Barth, Godemann, Rieckmann, & Stoltenberg 2007) which could empower active sustainable practices among stakeholders (Renzo, John, & Ralph, 2019).

Similarly, decisions and choices of the next generation can be influenced by sustainability content in teaching and learning offered in universities and can cause a positive sustainable impact on most students (Winter & Cotton 2012). In achieving a sustainable future,

> *'Quality Education' stands as "Goal 4" of the SDGs "with a theme to Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"* (United Nations, 2015b p.17).

According to Unterhalter (2019), quality education (in relation to the SDGs) is defined as a learning process with the focus on a humanistic inclusive vision of the SDGs, learning outcomes, equality and rights to sustainable knowledge. This Goal has specified targets which ensure skills development, knowledge acquisition, support access to education through offered scholarships to promote learning opportunity and sustainable development (United Nations, 2015b; Pandey, & Kumar 2018). It is imperative to recognise that this Goal does not stand alone, but rather it serves as a mechanism for implementing other Goals (Sonetti, Barioglio & Campobenedetto, 2020a). A growing number of educational institutions aim to accomplish this through their operations, research and teaching by providing adequate learning practices with a good measure on sustainability contents of both Goal 4 and the other 16 Goals within interdisciplinary faculties (Sustainable Development Solutions Network, n.d).

Prichard (2000) argues that a college or university institution trains members of the next generation with both specific and transferable skills so they are equipped to serve in various capacities, and become team leaders and managers in society. Although land based formal institutions could be expected to be more aligned to land activities, the benefits of such a focus transcend their original target to affect people and influence some Goals directly and others indirectly, to various extents and in different directions (Smith, et al., 2019). For example, in Cowie, Metternicht and O'Connell's (2015) research, it has been shown that competencies, skills and knowledge in agricultural sustainability builds resilience and influences practices that impact on sustainable development goals. In support of the same argument, Smith et al. (2019) and

Shoyama, Xue, Zhen, and Miah (2020) emphasised impacts of sustainable agricultural activities on productivity which could lead to responsible production and consumption (Goal 12), reduce hunger and poverty (Goal 1 and 2), increase good health and wellbeing (Goal 3), aid the practice of climate action (Goal 13), and increase decent work, economic growth and industrialisation (Goal 8 and 9), to mention a few.

Furthermore, Boeren (2016) and Kare (2020) argue that universities are crucial towards achieving a sustainable future, as university graduates are mostly influencers and relevant players in standard policy debates and are expected to possess a high level of sustainability knowledge, thinking skills and innovative practices to operate within the global economy. Also, Piasentin and Roberts (2018) were of the opinion that sustainable knowledge and skills obtained from higher education does not only promote change at the individual level but could also be of great merit to influence socio-economic and political level change by graduates. Many graduates hold public positions and their sustainable knowledge influences discussions and decisions to more sustainable behaviour which could bring solutions to problems for societal positive change (Chawla & Cushing, 2007). Increase in educational sustainable knowledge, competences and behavioural attributes, according to Nazar, Chaudhry, Ali & Faheem (2018), could make a significant contribution to an individual's work level or grade, reduce poverty and increase economic growth (Goals 1 and 8).

In addition, some researchers prior to the establishment of SDGs have examined sustainable educational roles and findings presented links to sustainable future themes. Faridi, Malik, and Ahmad, (2010), researched on education and the source of livelihood. The research encompasses the use of a model to assess literacy level, health, properties and employment rate. Its research findings presented a correlation with education and employment status and a positive, increased workforce, employment, health of workers, industries showing some rate of poverty reduction within Pakistan.

Again, Chawla and Cushing's (2007) study on Education for strategic environmental behaviour, illustrated essentially on the role of literacy on environmental actions to support a better society through behavioural changes. The research supported Jensen and Schnack (1997) opinion of building capacity and competences within the educational system to understand environmental problems think critically on strategic solutions and take up responsibilities to create positive change within the society of which according to Ballantyne, Connell & Fien (1998 p 285) "Educating both adults and young people is seen as part of the solution to such problems". Chawla & Cushing's (2007) research concluded with a positive influence on behaviour change due to increased literacy however it emphasised that within the educational system and in addition to environmental knowledge, next-generation should be prepared with skills, knowledge and values for policy influence and public actions to tackle global challenges highlighting that most industries are major obstacles to a more sustainable lifestyle.

According to Kopnina (2017) and Crespo, Míguez-álvarez, Arce, Cuevas, & Míguez (2017), the university performs a combination of holistic, ecocentric, participatory and transformative functions which supports the implementation of the SDGs.

It is apparent from their own documents that some universities see themselves as playing a significant role in addressing global challenges like those specified in the SDGs. For instance, according to Lincoln University's mission statement also highlighted in its 2019 Annual Report (Lincoln University Annual Report, 2019), through its curriculum, research, and operations, Lincoln University has a vision and purpose to enhance the growth of students' knowledge, understanding, skills, attributes and values, regardless of their future fields of specialization or positions, towards the actualization of a sustainably developed future.

2.3 Transformative and Multidisciplinary functions of higher education

Sustainable Development in higher education is crucial and imperative for a transformative society (Barth & Rieckmann, 2012). The concept has been progressively incorporated into educational institutions (Ferrer-Balas, Buckland, & de Mingo 2009), "assisting change towards a sustainable present and future within our society" (Junyent, & de Ciurana, 2008 p.764).

The university functions as a driver of global changes (Paletta et al., 2019). Lidgren, Rodhe, and Huisingh, (2006) argues that sustainability literacy should be a top priority, clearly prioritized within universities' strategic plans and curricular content for easy sustainable societal transformation. Sustainability literacy not only shows actions towards achieving the global agenda but also supports efforts to implementing these goals, building global competences for significant societal needs (Pandey, & Indrakanti, 2017).

According to Paletta et al., (2019) and Aarts et al., (2020), practices that demonstrate and model sustainability within higher institution, such as research, teaching, learning, operational activities, are the major channels through which higher educational institutions are able to achieve their goals in support of sustainable development. The educational institution has responsibilities through teaching and learning to inculcate attitudes into students for sustainable active roles during and after studies which could accelerate societal transition to sustainability (Kastenhofer et al., 2010; Barth & Timm, 2011), otherwise achieving a sustainable future will be almost impossible (Junyent, & de Ciurana, 2008).

Moreover, higher education potentially performs unique disciplinary and interdisciplinary functions addressing social and ecological issues which are tackled by the university educated graduates (Barth & Timm, 2011). University education performs socialisation functions by replicating society, culture and promoting citizenship, a vocational function where it trains people for future employment, a liberal function as it helps people build their potentials, and lastly a transformative function by supporting change to achieve a better planet (Sterling, 2001, as cited in Lidgren et al., 2006 p 801) These functions build graduates' knowledge, values, and attributes beyond growth, production, and consumption (Karpudewan, Ismail &

Mohamed, 2009). They also encourage reflection on the complexity and connection of attitude (Adomssent and Michelsen, 2006; Barth and Godemann, 2006)

2.4 Mapping of Sustainable Development Goals (SDGs) across Higher Education Curricula

Over the last five years, recognition of the important role of higher education in achieving a sustainable future has resulted in a number of universities attempting to map the contribution of their learning and operational systems to the SDGs. Consorte-McCrea et al. (2018), and Brugmann et al. (2019) argue that mapping contributions to the SDGs will identify current or baseline contributions, question the institution's own support for a sustainable future, aid structural reorientation, influence decision making and assist in the proper planning towards sustainability pathways. Even before the SDGs were agreed on, universities had begun to try and assess the extent to which the concepts, content and practices of Education for Sustainable Development had been integrated into their teaching, research and operations, and to identify effective methods to do this assessment (Tierney, Tweddell & Willmore, 2015). The universities which have conducting exercises to map their contribution to the implementation of the SDGs have adopted a number of approaches to gathering their data, including use of frameworks, keyword searches, interviews and surveys, as well as different ways of presenting their results, as outlined in the next sections.

2.4.1 Frameworks

Some institutions have approached the task of linking their research, teaching and learning within the university system to the SDGs by adopting the use of different developed SDG frameworks. In 2019, Strachan, Marshall, Murray, Coyle & Sonnenberg-Klein piloted and demonstrated the commitment of the University of Strathclyde Glasgow, Scotland to the SDGs by discussing the alignment of its research based undergraduate curricula through its Vertically Integrated Projects with the SDGs framework. The result presented links of its research to the SDGs and reflections for scale up across programs with an identified challenge of scale limitation.

Also, UNESCO framework for educators was developed to aid research on contributions to the sustainability, outlining learning objectives in the cognitive, socio-emotional and behavioural domains (United Nations Educational, Scientific and Cultural Organization, 2017). This framework has been adopted by Trad, (2019) to identify The Faculty of Engineering and IT (FEIT) at University of Technology Sydney, Australia. Their undergraduate course sustainability content was studied using key competences found within the UNESCO framework. Quantitative methodology was adopted to achieve the aim of the research and according to Trad (2019) limitations were referenced to the complexity of higher education curriculum of which quantitative information only does not express explicitly the complete sustainability content within a curriculum. Also, the framework domain structure does not align with a curriculum structure of knowledge

skills and values, so it is very difficult to apply and present comprehensive learning outcome of a university's contribution to the SDGs.

In contrast, the Curriculum Framework for the SDGs developed within the Commonwealth Secretariat follows a competency development model through a combination of knowledge, understanding, skills, values, and attitudes, with an aim to successfully enable the delivery of each of the SDGs at all levels of education (Osman et. al., 2017). The strength of its structure is that it aligns closely with the knowledge, understanding, skills, values, and attitudes framework used in developing local and national curricula, enabling easy application in SDG mapping and analysis at different educational levels. Despite is unique suitability as a guide for mapping the SDG content of university curricular, it does not yet appear to have been used extensively for this purpose by many universities. Only recently, Nurdiansyah, Mulyanti and Sucita (2018) adopted the framework to develop a vocational education curriculum for electrical engineering students to include green skills within the curriculum oriented towards affordable and clean energy (Goal 7) from the referenced framework. Similarly, Remedios et al. (2020) used the same approach to research on SDGs relevant knowledge and skills for Good health and wellbeing for all ages (Goal 3) within physiotherapy curriculum for medical students. Their findings presented key learning on how they address the SDGs and recommendations to aid the improvement of the SDG learning outcome to fit the curriculum and increase students' sustainable knowledge.

Again, Chang and Lien (2020) adopted the framework for the National University of Kaohsiung in Taiwan to identify the number of courses related to the SDGs at university, college and departmental level within the spring 2018 and fall session for 2018 and 2019 using quantitative approach as a fast scanning system. Although their findings presented interdisciplinary of courses measured by diversity of SDGs however, it was limited by insufficiency in details as an in-depth qualitative research of the courses will present more comprehensive SDGs information within curriculum (Chang & Lien, 2020).

2.4.2 Keywords and survey

The majority of Universities which have reviewed their curricula content across SDGs have adopted an approach based on using keyword searches and interviews or keyword searches and surveys. The Universitat Internacional de Catalunya (UIC) Barcelona Spain, Victoria University of Wellington New Zealand, University of Toronto Ontario Canada, University of Bristol, and Canterbury Christ Church University (CCCU) Kent, United Kingdom adopted the use of keyword search and survey to assess their university curricula contributions to the SDGs. This keyword search was done across the individual university's courses and the course survey was also carried out within faculties among students, departmental and faculty heads in the universities to obtain SDGs contents areas.

According to Albareda-Tiana, Vidal-Raméntol, & Fernández-Morilla, (2018), Tierney et al., (2015), Wilks & Van den Belt (2017), Brugmann et al., (2019) and Consorte-McCrea et.al. (2018), this key word search

adopted for the individual universities, provided quick retrieval of information within degree courses. However, Wilks & Van den Belt (2017) argues that the search results have limited accuracy since keywords within course outlines do not give a true reflection of course content related to the SDGs and within the course outline, SDGs content may be described with different words from the keyword used for the search.

In addition, surveys generally received a poor response (Tierney et al., 2015) and according to Wilks & Van den Belt (2017) generated limited feedback and information.

2.4.3 Interviews

Some universities used interviews with staff to obtain information about SDG relevant content. The Universitat Internacional de Catalunya (UIC) Barcelona, Spain, University of British Columbia Okanagan, Canada and University of South Africa adopted this interviewing approach to their mapping exercise. Semi structured interviews on curricular contents were conducted with deans and directors of faculties, responses specifying valuable course content pertinent to the SDGs and the results were qualitatively analysed based on the responses provided (Albareda-Tiana, et al., 2018; Zamora-Polo & Sánchez-Martín, 2019; McNeil, Freeman and Petillion, 2020; Mawonde & Togo, 2019). This method seems easy to use but the findings presented limited detail, poor coherence and precision between programme degree content and sustainability goals; Zamora-Polo, & Sánchez-Martín (2019) argued that a well-structured framework for higher education curricular SDGs mapping could reduce the limitations associated with this method.

2.4.4 Graphic presentation of findings

Nottingham Trent University (NTU) and University of West England (UWE), United Kingdom monitored their progress towards commitment to the SDGs in an attempt to raise awareness and level of visibility by making a graphic presentation of their findings. While NUT organised workshop engaging students and lecturers, UWE carried out a baseline assessment and portfolio review of policies and actions with reference to SDG Compass in search for SDG contents. The review was a continuation of an earlier survey mapping exercise of its curriculum against the SDGs with an intention to serve as a base for enhancement on programme design and delivery.

In a similar way, Again, Chang and Lien (2020) mapped National University of Kaohsiung in Taiwan using Osman et al.'s Curriculum framework for the SDGs and presented its finding in a spectrum chart at the different university level. The authors expressed the merits of the graphic presentation to have showcased the diversity of SDGs in SDGs related courses and an overall status of SDGs distribution within the university system.

These universities presented their findings graphically in relation to each of the disciplines or university level reviewed. According to Odell, Molthan-Hill, Erlandsson and Sexton (2020) and Gough & Longhurst (2018) this

graphic representation increased students' awareness on SDGs linkages and their curriculum content but lacks content concerning the gaps that is what the curriculum does not cover.

2.4.5 Conclusion on Mapping Approaches

Having reviewed several methods and their limitations, Franco et al. (2019) concluded that mapping of Higher Education Curriculum in support of the SDGs needed to involve comprehensive content analysis, identifying gaps, and specifying target areas for improvement on commitment to the SDGs.

Similarly, Consorte-McCrea et al., (2018) argued that the utilisation of a curricular framework for the SDGs in mapping curricula content could increase students' perspective towards global sustainability and transformative change, aids in identifying gaps, and reorienting curriculum holistically. Again, Sustainable Development Solutions Network (n.d) highlighted that detailed high-level information would be obtained with thorough curricula document review and use of a curricular SDG framework with common interest across different disciplines.

Hence, it could be said that the use of a curriculum framework based on the knowledge, understanding, skills, values and attitudes competency development model commonly used in the education sector could be the best method to be adopted because it presents opportunity for a more thorough, detailed and comprehensive review. Osman et al.'s (2017) Curriculum framework for the SDGs could be adopted as it is tailored specifically for educational sector at all levels. The written findings of the mapping exercise could then be visually presented to increase awareness of the SDGs and how different courses and degree programmes contribute to achieving the SDGs.

2.5 Lincoln University and Sustainability

Lincoln University is an institution claiming commitment to building the potential of students to protect life, become leaders and influence future generations, through its teaching and learning outcomes within curriculum and programme courses (Lincoln University Annual Report, 2018). The institution has a long history of sustainability thinking. Spicer, Barthelmeh, Montgomery, and Spellerberg (2011, 2012) researched education for sustainability at both undergraduate and postgraduate levels at Lincoln University prior to the establishment of the SDGs in 2015.Their approach identified general sustainability within the pedagogy of the institution but did not examine course content through the lens of SDGs. Also, no standard and structured framework was adopted, and curricular content was not explicitly examined.

Again, Piasentin and Roberts (2018) evaluated which elements in a Lincoln Masters level sustainability course contributed to paradigm change and action competence among the students. From 2015-2018, a core course for all Lincoln undergraduates was a second-year paper "Sustainable Futures", which is still offered but is no long compulsory for all degrees.

These researcher's outcome presented useful sustainability information within the university's teaching and learning system however its essential link in support of the SDGs were not explicitly expressed.

The benefit of examining curricula through an SDG lens is that it enables a clear explication of the interconnection between disciplines and the viewpoint that sustainability in sustainable development is not solely environmental, but includes economic, social and wellbeing (Willats, Erlandsson, Molthan-Hill, Dharmasasmita, & Simmons, 2018). The curricular content, according to Franco et al. (2019), presents the abstraction of the real world in terms of knowledge, skills and values and could show a sequence of learning modes, interdisciplinary and transdisciplinary curricular content functions in support of sustainable development.

Chapter 3

Methodology

This chapter provides information on the processes involved in the research design. It presents an overview of the methodology for this research. Section 3.1 illustrates a step by step process displayed on a flowchart, section 3.2 throws light on the case study method for the research, section 3.3 describes data collection types and methods, section 3.4 explains the applied research model and qualitative data analysis, while section 3.5 shows the graphic method adopted.

3.1 Overview of the methodology

To address the research question (see Chapter 1.8), several steps were taken which are summarised in a flow chart in Figure 3.1.

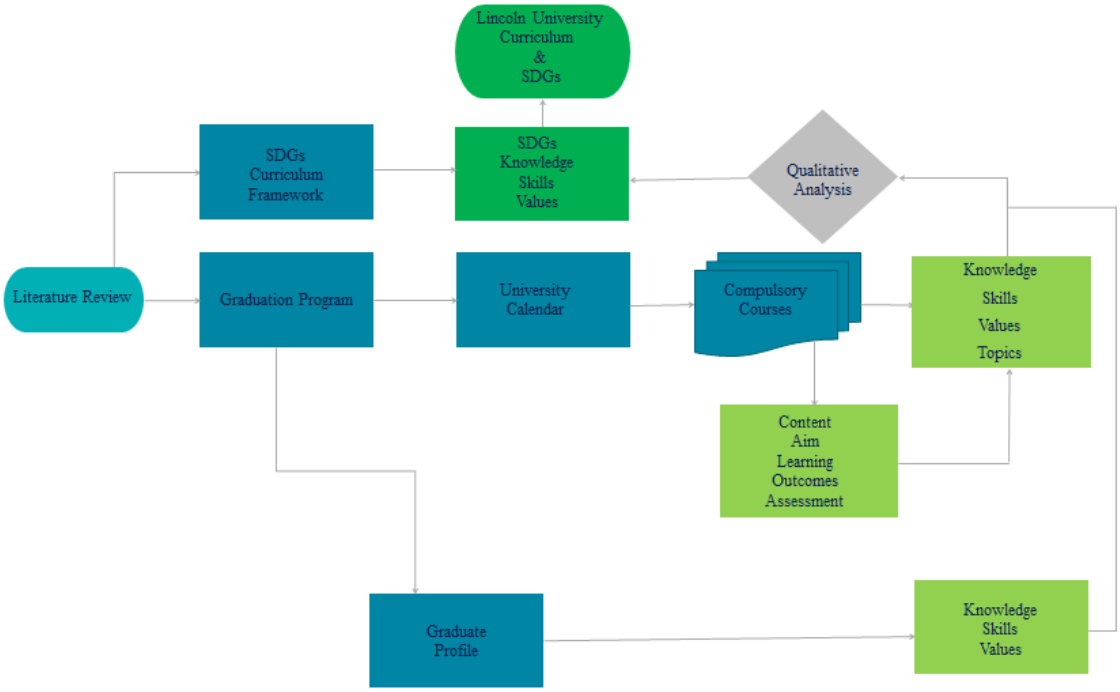

Figure 3.1 Lincoln University and the SDGs Methodology

Lincoln University key curricula documents were assessed against the Curriculum framework for the SDGs developed by Osman et al. (2017) as described in the following sections.

3.2 Case Study Lincoln

A case study is an all-inclusive explanation of a single occurrence (Starman, 2013) whose merits lie in its in-depth description and understanding of a case. Its usefulness further lies in its potential to inform the process for systematic change (Sharp 2002). A case study approach was adopted due to its relevance in early

stages of knowledge development (Shiel, et al., 2020) and, as the literature review has shown, means of mapping curricula to the SDGs are at an early stage of development.

In this research, Lincoln University was used as a case study of a land-based university with an established positive reputation for its curricular contribution to achieving the SDGs. Three-degree programmes, one from each Faculty, were studied to meet the aim of the research.

3.3 Curriculum Framework for the Sustainable Development Goals

The Curriculum framework for the SDGs used for the research was designed by Osman et al. (2017) for the Commonwealth Secretariat, with an aim to aid professionals in the education sector whose responsibility is to develop an educational learning system to implement the SDGs through a student's life (Osman et al., 2017).

Teaching and learning curricula serve as drivers of change and this can be as seen in the contents of the curriculum framework. In addition, it is considered a comprehensive holistic tool tailored to foster positive societal transformation (Brew, 2013). The framework is relevant in the identification of strengths and weaknesses (in relation to the SDGs) within diverse educational contexts and curricula across knowledge, understanding, skills, application, attributes, and values delivered through the curricula (Osman et.al 2017).

The framework's contents and characteristics (presented in Appendix 1) comprise interrelating components of knowledge, skills and values in a similar format to higher education curricular contents at Lincoln University.

3.4 Graduate Profiles and Core Courses

The degree programmes in each faculty which had the highest number of graduates over the last three years were identified by consulting the Lincoln's University Graduation Programmes for 2017 to 2019, and found to be the Bachelor of Agriculture, the Bachelor of Commerce and the Bachelor of Landscape Architecture. Graduate Profiles show the contents of knowledge, skills and values expected to be gained throughout the duration of the programme, delivered through the compulsory and non-compulsory courses. The Graduate Profiles for these three degrees were downloaded from the University's website and are reproduced in Appendix 2.

The names of the compulsory courses (core courses) required for the completion of these degree programmes were obtained from the Lincoln University's 2020 calendar, and the outlines for these courses (see Appendix 3) were extracted from the University's online 'Learn' page. These course outlines contain aims, outcomes, knowledge, skills, values, topics, assessment and teaching method for the course. The graduate profiles and course outlines of the core courses comprised the data for the research.

3.5 Applying the model

Critical constructivism and an interpretative approach were adopted for this research. In this process, Osman et al.'s (2017) Curriculum framework for the SDGs and critical thinking on curricula content link to the framework was applied by the researcher to interpret and produce new meaningful information. This constructivist and interpretative process, as argued by Elkind (2005) and Sonetti, Barioglio, & Campobenedetto (2020b), requires critical thinking when explaining the research component.

Qualitative content analysis in research methodology involves the study of documents in a search for patterns, categories and trends to obtain a clearer understanding and aid proper interpretation during summary (Jóhannesson, Norðdahl, Óskarsdóttir, Pálsdóttir, & Pétursdóttir, 2011; Kurniawan, Devi, & Astawa, 2020).

The knowledge, skills and values identified in Osman et al.'s Curriculum framework for the SDGs as required to address each SDG in tertiary education was extracted into a row of an excel spreadsheet with a green background and compared, through the researcher's reflective reading, to the contents of the standard graduate profiles (in white background) and the curricular contents of each core course for the degree under review.

The core course interpretation drew on the SDG knowledge requirements, and what the researcher understands from the guidance provided by Osman et al.'s (2017) Curriculum framework for the SDGs. Content that was found to be similar in the phrasing or nature of the descriptions in the three documents (Osman's framework, the graduate profile and the core course outline) were highlighted in yellow while the gaps were displayed with red background (e.g., Figure.3.2).

Knowledge and Understanding	Skills and Application	Values and Attributes	Courses
Goal 1: No Poverty • **Complex understanding of the relationship between poverty, economics, power, conflict, inequality, and other environmental, social and economic issues.** • **Research on global development and current societal need to identify skills demand in priority industries.** • **In-depth research on poverty alleviation and sustainable development, locally, globally.** • **Financial education to improve micro-finance projects** • Research the relationships between poverty, vulnerability and other stressors that are impacted by further climate change	• **Complex financial and economic skills.** • **Skills to support development co-operation activities.** • **Ability to explain the relationship between poverty and other economic, social and environmental shocks and disaster** • **Application of data collection and analysis skills to develop strategies for poverty alleviation (e.g. report on consequences of poverty).** • **Identify methods for mitigation and resilience.** . **Ability to participate in debates related to poverty**	• **Concern for social justice.** • **Pro-poor awareness.** • Willingness to engage in social, economic and political inclusion of all groups (including vulnerable populations, disadvantaged groups and migrant workers) • Motivated to influence decision making related to poverty eradication, and participation in pro-poor Development and poverty eradication activities.	Global business value chain in commerce and interconnected economic and social factors. BMGT 116 Business and income statistical analysis. COMM 111 Finance and budgeting for micro finance project. COMM 112 Economics and Poverty. ECON 113
1. Understand the importance of global value chains & the contributions made by various commerce disciplines in creating value and sustaining superior performance.	1. Have the skills to investigate and learn new concepts throughout their working lives. 2. Be able to evaluate & attack the most important challenges facing global businesses. 3. Find & use relevant information, from a variety of reputable sources, and synthesize this information in order to make sound decisions. 4. Be self-reliant and capable of forming opinions that they can believe in, defend with logic and integrity, and gain support for.	1. Identify the impact of business decisions on stakeholders, including the environment and society.	
a.In depth knowledge on relationships between commercial activities, poor income, power, poverty, low standard of living , other factors and climate change effects	a. Skills to identify the interconnection between positives and negatives of commerce and global crises b. Ability to speak for and against commerce and poverty	a. Eager to engage in political activities, planning and decisions regardless of societal status or groups linked to commerce. b. Intention to make positive impacts in business having environment, society and economy as of priority.	

Figure 3.2 Goal 1 Bachelor of Commerce documents content interpretation

	SDG Framework
	LU Graduate Profile
	Gaps
	Topic & Course Code of content supportive of the SDGs

Figure 3.2 provides an example of how the Bachelor of Commerce curriculum was assessed against the knowledge, understanding, skills, application, values, and attributes identified in the Curriculum SDG framework for SDG 1 'No poverty'. The information in the first column ('knowledge and understanding') has five bullet-pointed groups of 'requirements' as specified by Osman et al.'s Curriculum framework for the SDGs. The intended outcomes of the graduate profile are numbered and placed below it in the row with the white background. The requirements listed in the Osman et al.'s Curriculum framework for the SDGs written in yellow font in the green-backed row are the requirements that were found to have corresponding/similar outcomes or content in either Lincoln University's graduate profiles or their core courses. The Lincoln University courses in which this content was found are listed in yellow in the last column of the green-backed row. Items identified as 'requirements' in the framework, but for which there was no corresponding content evident in the Lincoln University degree material highlighted black on the green background is constructed in relation to the degree program under review and appears in the last (red-backed) row.

Iteration for each of the 17 SDGs was done across the same graduate profile and core courses particular to the degree programme under study, interpreted and displayed accordingly. This served as a baseline for further visualization and analysis of the results.

3.6 Graphic Presentation

Following the above process, a comprehensive graphic tool was deployed to outline the interlinkages between each Goal and curricular content. The topics and the course codes of the contributing core courses were extracted from the last column as described above in Figure 3.2 and presented in an aesthetic and clearer format shown in Figure 3.3 below.

Figure 3.3 Bachelor of Commerce and the Sustainable Development Goals

In summary, these methods comprised analysis of the curricular content of graduate profiles and compulsory courses of graduate programmes against the curricular content requirements of the Osman et al.'s Curriculum framework for the SDGs. The review addressed knowledge, understanding, skills, values, attributes, norms, learning outcomes, topics and aims for each goal in order to identify areas of contribution and areas of gaps.

Chapter 4

Results and Discussion

This chapter presents and discusses the results of my research. It begins with the results obtained from applying the framework to analyse the curricula of the Bachelor of Landscape Architecture (BLA), the Bachelor of Commerce (BComm) and the Bachelor of Agriculture (BAg). The key points arising are discussed in terms of their relevance to support the achievement of the SDGs followed by an overall discussion at the end of the chapter.

4.1 The Lincoln Bachelor of Landscape Architecture curriculum and the SDGs

The Bachelor of Landscape Architecture degree programme, as specified in its Graduate Profile, intends to produce highly skilled graduates with multidisciplinary knowledge and practical application through designs, planning and management to tackle issues.

How the BLA programme supports the global issues addressed by the SDGs was explored by reviewing the Graduate Profile and core courses for degree completion.

For the degree programme, students are expected to pass six core compulsory courses, namely: Digital Tools for Designs (DESN 101), Introduction to 3D Design (DESN 102), Visual Communication (DESN 1I03), History of Design and Culture (DESN 104), Land Surfaces, Water and Structures (ENGN 106) and Introduction to Earth and Ecological Sciences (PHSC 107). These are required for the completion of the degree and were reviewed for this research.

The aims and learning outcomes of the core courses are achieved through their distinct course topics. These were assessed in relation to their relevance to the SDGs and linked to one or more of the SDGs as well as their respective course codes, as shown in Table 4.1.1. The same information was presented graphically in Figure 4.1.1 for easy communication.

In Table 4.1.1, the course topics and codes column illustrate the knowledge, skills and topics drawn from the Graduate Profile and the core course outlines for the Bachelor of Landscape Architecture degree programme. This interpretation was made through critical reflective thinking with reference to Osman et al.'s Curriculum framework for the SDGs.

Table 4.1.1 Bachelor of Landscape Architecture compulsory courses content matched with the relevant UN Sustainable Development Goals

SDG Goal	Course Topics and Codes
1: No poverty 	Software applications to support reports, data collection and analysis on developmental activities. DESN 101, DESN 102, DESN 103, DESN 104
2: Zero Hunger 	GIS designs on landscaping and agriculture. DESN 101, DESN 102, DESN 103, DESN 104 Environment, soil function, and food security. PHSC 107
3: Good Health and Well-being 	Graphic designs showing creativity in health infrastructure (hospital, clinics) landscaping to improve mental and environmental health. DESN 101, DESN 102, DESN 103 Healthscape culture and design. DESN 104 Impact of biological and physical environment on human health. PHSC 107 Skills for map making, spot heights, gradient, contours, and landforms for the landscape design of health location. ENGN 106
4: Quality Education 	Knowledge of the use of software across disciplines. DESN 101, DESN 102, DESN 103 Knowledge and history of the international landscape, architecture, and urban design. DESN 104 Knowledge of engineering concept in landscape designs. ENGN 106 Scientific knowledge of earth and life. PHSC 107
5: Gender Equality 	Use of software for gender communication in designs. DESN 101, DESN 102, DESN 103 Understand the cultural perspective on gender mainstreaming and apply to design. DESN 104
6: Clean Water and Sanitation 	Use of software for the clean water section in landscape designs. DESN 101, DESN 102, DESN 103 Waterscapes. DESN 104 Storm water Engineering. ENGN 106 Anthropogenic, Biogeochemical and soil characteristics. PHSC 107
7: Affordable and Clean Energy 	Software landscape designs for energy land use. DESN 101, DESN 102, DESN 103 Designs of future and disaster. DESN 104 Spot heights, gradient, contours, and landforms for the landscape design of clean energy site. ENGN 106
8: Decent Work and Economic Growth 	Apply digital techniques for designs in labour market. DESN 101, DESN 102, DESN 103 Landscape engineering technology and skills for employment. ENGN 106

9: Industry, Innovation, and Infrastructure 	Knowledge and use of CAD and GIS for industrial landscape designs including reducing pollution and climate change. DESN 101, DESN 102, DESN 103 Models of future and disaster. DESN 104 Specialization in digital technology and innovative design. DESN 101, DESN 102, DESN 103 Engineering innovation and fundamental knowledge for landscape designs. ENGN 106
10: Reduced Inequality 	Projecting neutrality and inequality directly or indirectly in digital design. DESN 101, DESN 102, DESN 103 Understand the history and cultural perspective on inequality and apply to design. DESN 104
11: Sustainable Cities and Communities 	Digital skills for landscape designs within communities. DESN 101, DESN 102, DESN 103 Creative, sustainable designs from historical information and cultural beliefs, Designs of future and disaster. DESN 104 Engineering skills for structure designs, land surfaces, and storm water. ENGN 106 Anthropogenic, biomass, soil characteristics, fossil records. PHSC 107
12: Responsible Consumption and Production 	Inclusion of historical production or consumptions in designs to communicate sustainability. DESN 104 Green materials for engineering designs. ENGN 106 Ecology, biomass, soil attributes, fossil science. PHSC 107
13: Climate Action 	Application of GIS and CAD in designs to support climate change and resilience. DESN 101, DESN 102, DESN 103 Inclusion of indigenous, historical, and cultural knowledge on climate actions as a means of communication in landscape designs. DESN 104 Green materials for engineering designs. ENGN 106 Anthropogenic, climate, biomass, biogeochemical and soil characteristics. PHSC 107
14: Life Below Water 	Digital tools for Landscape designs with areas to support marine life. DESN 101, DESN 102, DESN 103 Apply history and culture in waterscape to conserve the marine ecosystem. DESN 104 Contour, slope gradient, storm water engineering, decks, retaining walls, and drainage patterns with consideration to the marine ecosystem. ENGN 106 Anthropogenic, climate, biomass, biogeochemical. PHSC 107
15: Life on Land 	Digital tools for Landscape designs with areas to support biodiversity and ecology. DESN 101, DESN 102, DESN 103 Respect for culture in landscape and conservation of biodiversity. DESN 104 Landforms surface, contour, slope, gradient, and drainage patterns with consideration to the land ecosystem. ENGN 106 Anthropogenic, Biogeochemical, biomass, biogeography and soil characteristics. PHSC 107

16: Peace and Justice Strong Institutions 	Abide to laws guiding design creation. DESN 101, DESN 102, DESN 103 Treaty of Waitangi and biculturalism in lands scape designs. DESN 104 Engineering landscape designs based on rules and regulations of the building act. ENGN 106
17: Partnerships to achieve the Goal 	Reference to digital designs during the implementation of the project, planning, and decision making among partners and stakeholders. DESN 101, DESN 102, DESN 103 Stakeholders' engagement, indigenous knowledge, and respect for culture in designs. DESN 104 Monitoring of design implementation, specialization, and stakeholder engagement. ENGN 106

Figure 4.1.1 Bachelor of Landscape Architecture and the Sustainable Development Goals

Within the core courses reviewed, it was observed that most core courses support more than one SDG directly or indirectly, which indicated linkages of one goal to another. This could be due to the transferable skills developed on a course or the impact one course could have on another. For example, the learning outcomes and software skills for design and planning purposes in DESN courses are expected to be applied to, not only infrastructural or landscape designs which contributes to Goals 9 and 11, but also to support designs for energy land use (for Goal 7) designs for landforms and to support biodiversity (Goal 15), and water infrastructural designs with an intention to reduce or prevent wastage, ease distribution, recycling and increase sanitation (Goal 6). Also, those skills could be applied to produce designs in support of life below water Goal 14, support biodiversity or marine habitats.

Furthermore, the knowledge, skills and values in understanding engineering concepts in ENGN 106, scientific knowledge on earth and life (PHSC 107) or international landscape architecture (DESN 104) could build capacity and present an increase in knowledge and education (Goal 4) which also links to innovative competences (Goal 9). Again, the software skills in DESN 101, 102 and 103 equips students with expertise for employment (Goal 8), serving as a source of livelihood (Goal 2), hence reducing poverty for one or more persons (Goal 1) and contributing to a country's growth (Goal 8). In addition, the No poverty and Zero hunger goals could be linked to the use of transferable design skills in DESN courses for programme or project decision making, reporting purposes, landscape designs which support sustainable agriculture, developmental structures for tourism in addition to soil function and food security in PHSC 107.

Skills and values gained within the BLA programme core courses could also support mental and environmental health (Goal 3) through its creative health infrastructural designs by implementing knowledge gained from biological and physical health impacts (PHSC 107), landform designs (ENGN 106), culture (Goal 10) and design (DESN 104).

The curriculum analysis implies that the Lincoln University BLA programme, through designs, visualisation, engineering, social and science knowledge within its curricula, supports the SDGs in various capacities. However, conscious sustainable thinking during design development could influence decisions in concept modelling, materials use (Goal 12), partnership, and collaboration (Goal 17) with various stakeholders of similar opinion, while understanding and abiding by design rules could support peace (Goal 16) and drive efforts towards actualisation of the SDGs. These capabilities are obtained in DESN; ENGN and PHSC courses respectively (see Table 4.1.1).

Furthermore from the analysis of the Lincoln BLA, Goals 3, 4, 6, 11, 13, 14, and 15 were observed to have links to all the core courses while the other SDGs were linked to less than 6 of the core courses and responsible production and consumption Goal 12 had the least course content presence (Figure 4.1.2).

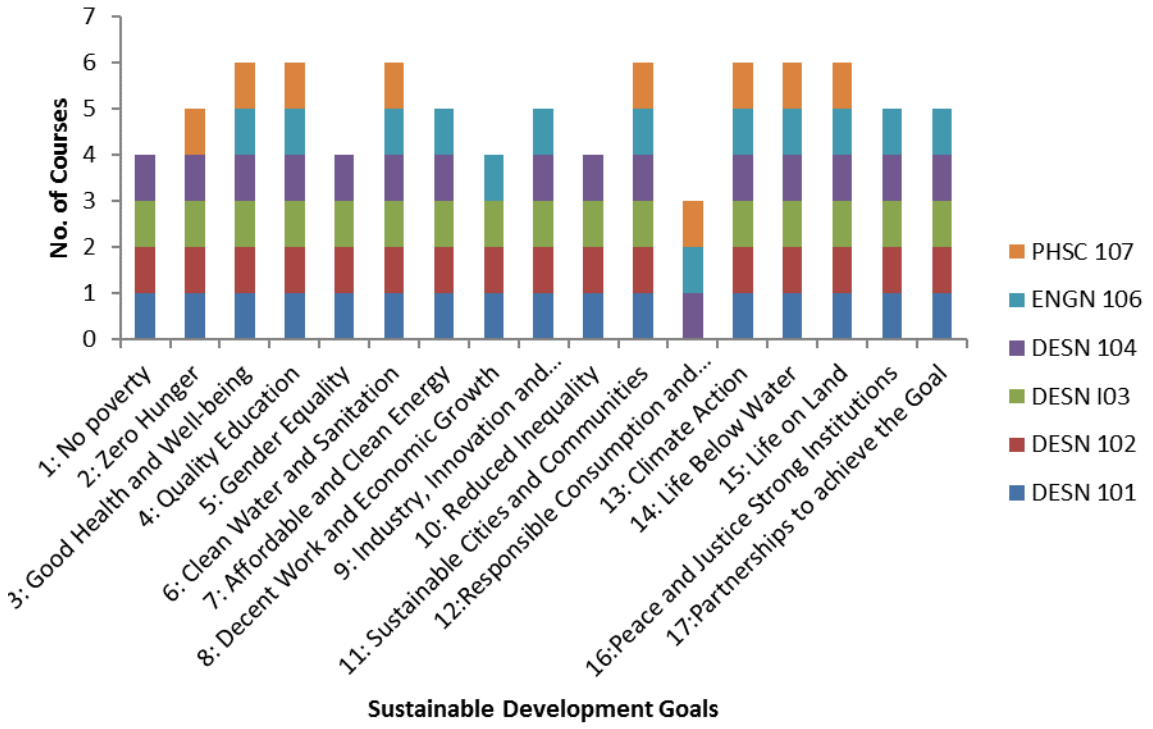

Figure 4.1.2 The Sustainable Development Goals and the relevant content presence in Bachelor of Landscape Architecture core courses

It was also observed that the Lincoln University curriculum for Landscape Architecture has contributions to the SDGs in different proportions; four of the six core courses had more content linked to the Goals while the other two courses had less linked content. None of the core course reviewed within the Bachelor programme had a complete content link across all the SDGs and each course supported each SDG differently to complement each other.

Though the above results present areas of commitment to the SDGs, there were also gaps identified within the curriculum with reference to the Osman et al. (2017) Curriculum framework for the SDGs.

Table 4.1.2 presents the SDGs and the gaps identified during the research in the knowledge, understanding, skills and values required in support of each goal and which could in future be included in Landscape Architecture's curriculum

Table 4.1.2 Identified SDGs gaps within Landscape Architecture curriculum

Goal	Knowledge and Understanding	Skills and Attributes	Values and Norms
1	Knowledge in costing micro-projects in landscaping	Skills on full system cost and economic impacts of landscape designs	Support landscape advocacy and its impact on low-income earners
2	Knowledge in agro and edible landscaping and its economic effects Understand the concept behind landscaping and agriculture such as agroforest, rooftop, forage crop or organic, sustainable agriculture, Understanding landscaping about the ecosystem, biodiversity conservation	Ability to contribute to a sustainable agricultural system though agro and edible landscaping Able to analyse the interconnection between landscape, nutrition, health, and lifestyle Ability to engage in research and consulting	Resilient landscape designs to support agriculture and climate change Accept innovation, encourage research, consulting, and human resources in the Landscape Architecture sector.
3	Understand how LA can attract physical (positive and negative) activities in children and adolescence	Ability to engage in landscape architecture research with improved, innovative designs and plans to support sports/physical activities, health, and wellness.	Motivated to support education and capacity building on LA and physical activity inclusion
4	Understanding human rights associated with landscape architecture education and its relations to other rights Knowledge of considering children growth and development in LA planning Recognising the need for education implementation skills and capacity building	Ability to understand different fields of sustainable LA and build strength within an area of interest Able to identify and analyse landscape architecture education about sustainability Use of LA knowledge in a different geographical context (local, national, regional, international) with regards to their laws guiding LA Skilful at capacity building and knowledge transfer of sustainable LA planning and designs to institutions and groups at different educational levels.	Promote education for sustainable Landscape Architecture Support education in sustainable LA without bias and inequality Committed to building capacity and appreciation in sustainable LA to the less privileged and uninformed Willing to contribute to local and national ability on sustainable LA skills
5	Understand women limitation to education Landscape Architecture Consideration of women at every design and planning stage Educating women in Landscape Architecture as one of their rights and providing complete access to information Knowledge and understanding of laws or regulations guiding	Ability to apply gender neutrality in every coaching system Implement designs and ideas with considerations to boys and girls	Support and appreciate gender neutrality in landscape architecture education Always take responsibility and account for gender neutrality in plans and projects

	women inclusiveness in education, plan, and designs Awareness of cost of considering women in designs and capacity building		
6	Knowledge of authority, governing and management requirements for water provision in planning and designs Knowledge of considering equality for every water space designs Understanding the need for research and multidisciplinary relation to landscape designs	Finance, Audit, scarcity and climate change, Skilful in costing and auditing water availability in sustainable landscape planning and designs Ability to implement with consideration to water scarcity and the effects of climate change on water availability	Support advocacy for water scarcity and management through designs
7	Research in green energy to be considered and included in landscape planning and designs Understand the cost implication of green energy in landscape designs through research and findings	Apply Landscape architectural planning and drawings to support clean energy and climate change measures (mitigation and adaptation) Implement green energy research findings in maps and plans to increase development, boost the economy and sustainable change	Advocate for a political and cultural shift in landscape architecture towards green energy structural plans and designs Willingness to use innovative technologies in landscape infrastructural designs Recommend and promote affordable and artistic green energy designs Value equal access to safe energy and neutrality in drawings and plans
8	Understanding technological roles in landscaping its requirements and potentials in a job environment Knowledge of business and landscaping architecture Knowledge landscape architecture labour market Knowledge of women rights to work in the landscape architecture field	Apply effective use of resources during planning and designs Apply unique atheistic design skills to the impact of job environment Reduce inequality and unemployment in the labour force through inclusiveness in planning and designs Implement planning and plans with consideration to all age group, providing room for employment in management and maintenance systems	Promote room for a collaborative and robust working system Concerns for inequality in planning, designs, and jobs in Landscape Architecture Support women in governing, monitoring and managing landscape sector and project implementation
9	Research on landscape architecture and innovation technology Knowledge of science in landscape plans and designs	Skills to participate in debates and arguments for Landscape Architecture educational support Use of research findings and updated innovations for the designs and development of Landscape Architecture	Promote the use of recent innovative technology for landscape architectural designs
10	Knowledge of landscape architecture designs to address inequality perception	Implement landscape designs of inequality to increase individual social security	Uphold the rights of women and migrants in professional practice

	Experience in landscape architectural designs that attract funding, investment, and financial support	Ability to take leadership positions to influence change on equality within Landscape architecture discipline Ability to show transparency in plans and cost	Committed to empowering women and migrants as landscape entrepreneurs Advocate for the landscape of equality
11	Knowledge of innovative designs with sustainable energy use, transport and green areas	Implement plans and designs with consideration to urban growth Apply climate change thinking to maps and plans Utilise landscape architecture designs within communities to improve food access, resilient climate clusters, settlement and employment opportunities	Respect and value indigenous cultural heritage, structures, monuments, and heritage during landscape plan and designs
12	Knowledge of political influence and policies on consumption and production in landscape architecture Understanding interdisciplinary contribution to consumption and production, socio-ecological effects, and its impact on landscape designs and plans	Ability to implement models with consideration of the circular economy Use landscape designs and architecture to reduce the ecological footprint Ability to take up responsibilities, management and discussions in landscape architecture disciplines Research skills on resilient landscape architecture Implement landscape designs which influence responsible consumption	Support green business, lifestyle and governing system in architectural landscape designs and plans Promote sustainable consumption through landscape designs
13	Understanding landscape architecture and impacts on climate action Research and understand complexities involved in landscape designs, vulnerable population and climate change Knowledge in landscape architecture governing systems and its approaches to climate mitigation and adaptation	Ability to deal with complexities of design concerning the disaster and climate change impacts. Ability to design, plan and implement climate and resilient structures	Committed to change, inclusiveness and lack of bias in sustainable landscape discipline Promote climate-resilient designs Interest in capacity building on sustainable landscape architecture Support climate innovation and technologies through landscape designs
14	Understand landscape architectural design and marine ecosystem Knowledge of marine innovation and inclusiveness in landscape designs Knowledge of sustainable landscape architecture and	Able to research the ocean environment, climate change effect and landscape designs	Committed to sustainable marine life through drawings and plans

	commercial aquatic activities		
15	Knowledge of landscape design support to climate action and clean air Knowledge of landscape architecture and agricultural production Understand landscape architecture and biodiversity conservation	Ability to research and innovate unique land designs and plans Ability to implement landscape climate-resilient designs	Committed to advance technology and its knowledge transfer in landscape architecture Promote conservation of biodiversity and ecosystem through landscape plans and designs Support the use of clean energy landscape plans and designs
16	Knowledge of legal constitution on the human right Understand environmental and landscape professional constitution Knowledge of landscape laws with a related professional legal document Understand mobility rights and professional governance	Ability to include global and international design concept in Landscape Architecture Use Landscape designs as a medium of communication to manage global issues	Support gender parity and advocacy by adding gender requirements in all plans and design Respect and cooperation with different profession incorporated in the landscape design Value Landscape Architecture as a solution to problems
17	Knowledge in monitoring, evaluation, and implementation of sustainable landscape designs Knowledge of leadership, management, and governance in landscape discipline Understanding capacity building and knowledge transfer in Landscape Architecture Culture of sector collaboration and partnership for the implementation of the plan.	Ability to interpret the financial implication of landscape designs Ability to share knowledge of Landscape Architecture's contribution to sustainable development Goals Ability to advocate sustainability as a core focus across the board	Committed to promoting capacity building, information sharing, and knowledge transfer

4.2 Lincoln University Bachelor of Commerce curriculum and the SDGs

The Bachelor of Commerce degree according to its Graduate Profile aims at equipping graduates with skills for global business, including an understanding of the global nature of value chains. It provides exposure to interdisciplinary perspectives on a variety of land-based issues and qualifies graduates to play a significant role in linking local strategies and operations to the global economy. As with the Bachelor of Landscape Architecture, the aim, objectives and learning outcomes of the programme are expressed in their graduate profile and courses.

The core courses for the degree comprise Introductory Statistics (COMM 111), Financial Information for Business (COMM 112), Economies and Markets (ECON 113), and Introduction to Commercial Law (LWST 114), Principles of Marketing (MKTG 115) and Principles of Management (BMGT 116).

The Graduate profiles and core courses for the Bachelor of Commerce degree programme were reviewed as described in Chapter 3. Table 4.2.1 presents the information obtained from the review about the coverage of content relevant to each SDG within the core courses and the associated course codes. The same information is presented graphically in Figure 4.2.1

Table 4.2.1 Bachelor of Commerce compulsory courses content matched with the relevant UN Sustainable Development Goals

Goal	Course Topics and Codes
1: No poverty 	Global business value chain in commerce and interconnected economic and social factors. BMGT 116 Business and income statistical analysis. COMM 111 Finance and budgeting for a microfinance project. COMM 112 Economics and Poverty. ECON 113
2: Zero Hunger 	Livelihood and commerce, the influence of environmental and economic factors. BMGT 116 Quantitative analysis for agricultural, food security, and environmental business plan. COMM 111 Knowledge of business financial analysis, its link to food security, and livelihood. COMM 112
3: Good Health and Well-being 	Quantitative evaluation and analysis of population or health business needs. COMM 111
4: Quality Education 	Pedagogy on sustainable business and its value chain. BMGT 116 Knowledge and application of descriptive statistical across a variety of industries. COMM 111 Understanding Economics and economic analysis. ECON 113 Introduction to law. LWST 114 Foundational market theories. MKTG 115
5: Gender Equality 	Business balance, social, and cultural factors. BMGT 116 Statistical gender information and analysis for a business budget. COMM 111 Good Practice in Marketing. MKTG 115
6: Clean Water and Sanitation 	Business value chain and environmental (clean water access, transportation, supply, affordability) influence. BMGT 116 Graphical and statistical analytical information between economies, poverty, and water infrastructure. COMM 111 Financial knowledge of water infrastructural projects. COMM 112 Economics of Scarcity. ECON 113 Resource policy, environmental law, contract law, and water governance. LWST 114 Clean water strategic marketing for sustainability. MKTG 115
7: Affordable and Clean Energy 	Energy business trade, management, and economic impact. BMGT 116 Statistical analysis of trade and green investment for decision making. COMM 111 Financial implication of green investment. COMM 112 Economics of energy resource use. ECON 113 Resource policy, environmental law, contract law, and water governance. LWST 114 Clean and affordable energy marketing for sustainability. MKTG 115

8: Decent Work and Economic Growth 	Business professional communication skills and tools usage to meet global job market competition. BMGT 116 Knowledge of statistical application tools in a working environment and the use of quantitative information for business decisions. COMM 111 Knowledge of financial growth in business and impact in an economy. COMM 112 Economic growth at different scales. ECON 113 Employment law. LWST 114 Employment marketing. MKTG 115
9: Industry, Innovation, and Infrastructure 	Technical analysis and application of knowledge in management functions. BMGT 116 Specialization or working knowledge on statistical software. COMM 111 Industrial economics. ECON 113 Contract law, land law, intellectual property law. LWST 114 Business marketing strategies. MKTG 115
10: Reduced Inequality 	Economic, social, and cultural interlinkage to business. BMGT 116 Statistical designs on financial services offered and disparity across various sectors. COMM 111 Economic Wellbeing and Inequality. ECON 113 Good practice in marketing. MKTG 115
11: Sustainable Cities and Communities 	Business and infrastructural development, management, and planning. BMGT 116 Statistical analysis information required for resource distribution, development, planning, and business. COMM 111 Business infrastructure and financial implication. COMM 112 Economically sustainable resource use for business. ECON 113 Contract law, environmental law, land law, intellectual property law. LWST 114
12: Responsible Consumption and Production 	Business control on production. MGMT 116 Graphical analysis of production and consumption in business. COMM 111 Profit and loss of sustainable production and consumption. COMM112 Demand and Supply. ECON 113 New Zealand Constitution, Business law, Contract law. LWST 114
13: Climate Action 	Business impacts on climate change (transport, logistics, products raw materials, energy use, structures) BMGT 116 Numerical analysis of business systems and environmental factors. COMM 111 Environmental impact on the market. ECON 113 Regulatory compliance, environmental law, contract law. LWST 114
14: Life Below Water 	Planning and management of business activities related to the marine ecosystem. BMGT 116 Probability distribution, descriptive statistics on water ecosystem, and business management. COMM 111 Financial knowledge of the sustainable business from marine life. COMM 112 Business economics, monetary policy, taxes in the marine ecosystem. ECON 113 Regulatory compliance, environmental law, contract law. LWST 114

15: Life on Land 	Planning and management of business related to plants and animals. BMGT 116 Statistical or graphical information on plants, animals, and human impact on business. COMM 111 Knowledge of financial budgeting on plants, animals, and associated raw materials for business purposes. COMM 112 Business economics, monetary policy, taxes on agriculture, and environmental pollution. ECON 113 Regulatory compliance, environmental law, land law, contract law. LWST 114
16: Peace and Justice Strong Institutions 	Knowledge of economic, social, cultural, and environmental legal requirements for business operation. BMGT 116 Data quality and accurate analysis to guide decision making. COMM 111 Knowledge of precise financial costing. COMM 112 Environmental Economics. ECON 113 Regulatory compliance, environmental law, contract law, tort, employment law, agency law, land law, intellectual property law. LWST 114 Controlled and uncontrolled marketing. MKTG 115
17: Partnerships to achieve the Goal 	Collaboration, communication, leadership, and teamwork on sustainable business development. BMGT 116 Adoption of most used statistical tools across various business disciplines, data integration. COMM 111 Government spending, Inflation, Interest rate, monetary and fiscal policy. ECON 113

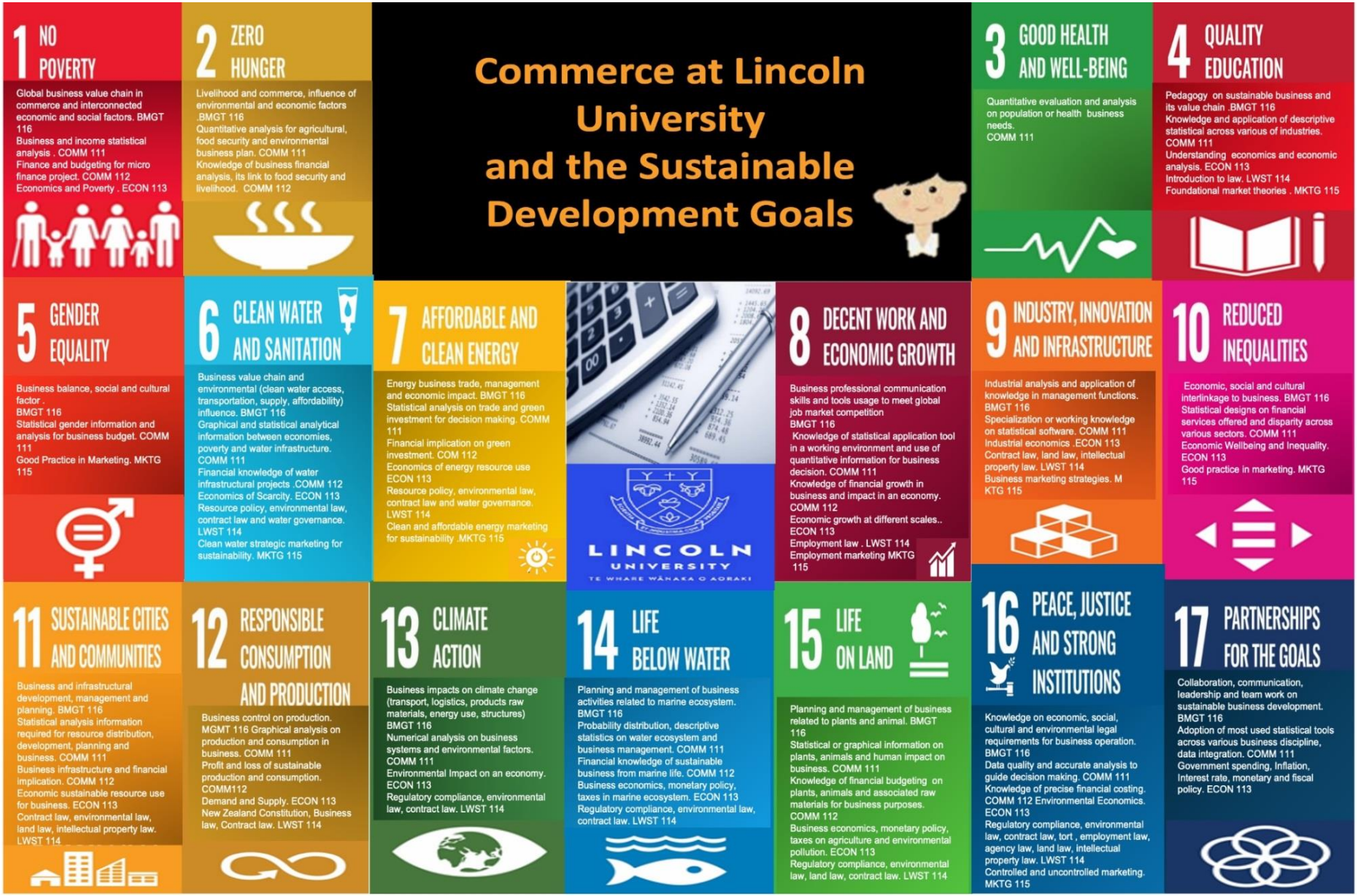

Figure 4.2.1 Bachelor of Commerce and the Sustainable Development Goals

Within the commerce degree programme curriculum, findings show that BMGT 116 curricular contents link to several goals. The study on global commercial business value chain, environmental, economic and social factors could provide understanding in support of Goals 1, 2, 5, 6, 7,10 and 13 in different ways. Also, knowledge and applying legal requirements, management functions, planning and leadership skill with regards to business obtained during study of BMGT 116 supports Goals 11, 12, 16 and 17 respectively.

Similarly, LWST 114's knowledge on regulatory compliance, New Zealand constitution, business, contract, environmental and property laws links to SDGs 9, 11, 12, 13, 14, 15, 16 and 17 while resource policy and water governance and employment law relates to Goals 6 and 8.

Content related to understanding rules and policies binding employment, employment growth at various contexts, financial growth in business and professional communicating marketing skills within the contents of demand, supply and scarcity economics in ECON 113, good practice in marketing MKGT 115, and commerce in COMM 111 and 112 core courses all contributes to the implementation of Goals 5, 6, 8, 9, 10, 12, 14, and 16.

Furthermore, COMM 111 and 112 core courses' skills and values span across all the goals as they have wide application. The knowledge and application of data analysis obtained from these courses about probability, population distribution, gender analysis, qualitative and quantitative business analysis, trade and investment, income, finance and budgeting for both micro and macro projects present the relevance of the courses to the goals. It was also striking that analytical skill in monitoring and evaluating population health and business investment in COMM 111 was the only content within the core courses that had a link or application to Goal 3.

Also, pedagogy on sustainable business in BMGT 116, Industrial Statistics in COMM 111, Economies in ECON 113, Law in LWST 114 and Markets in MKGT 115 links to competences required for Goal 4.

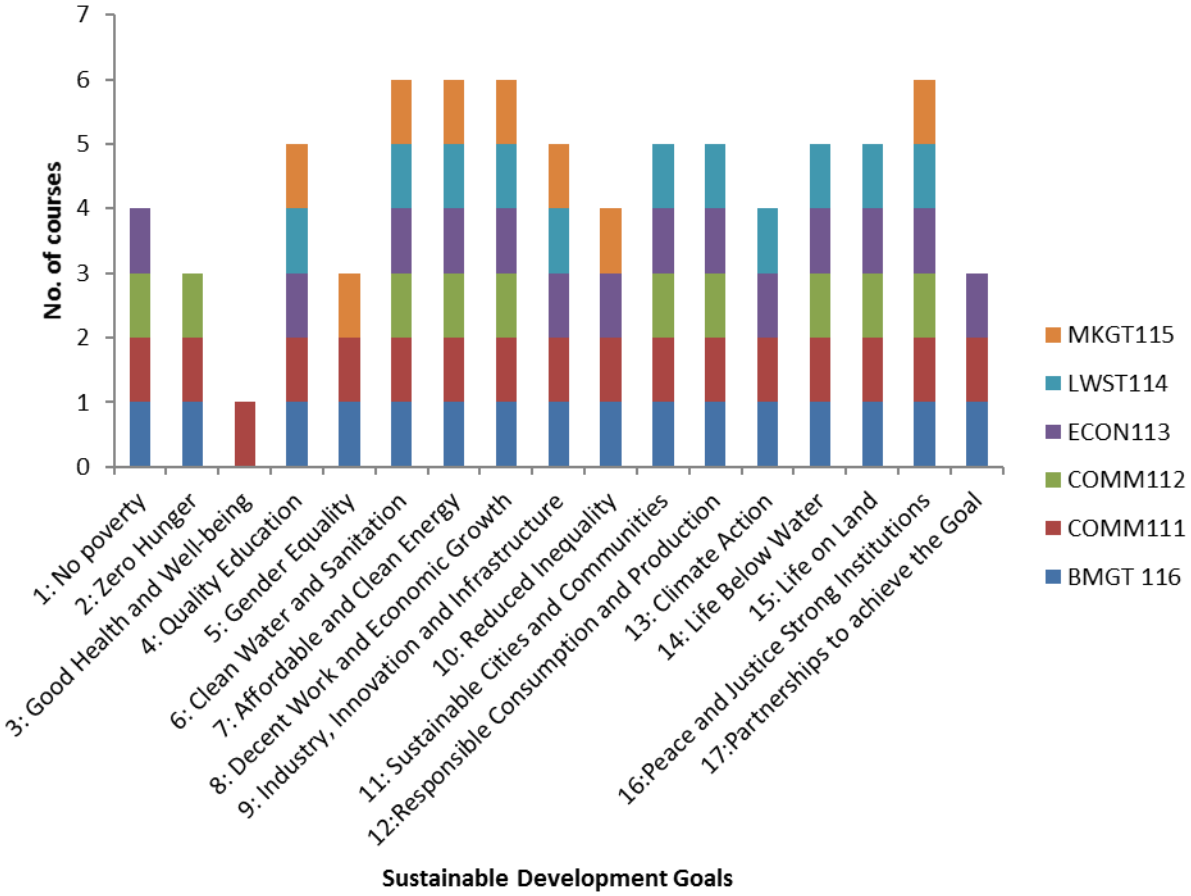

Figure 4.2.2 The Sustainable Development Goals and relevant content presence in Bachelor of Commerce core courses

The above analysis shows some coverage of all the SDGs across the core courses. The strength of the core course degree programme was identified in Goals 6, 7, 8 and 16. This could imply that priority Goals for the Graduate Programme in the Bachelor of Commerce relate more to obtaining decent work and businesses, either private or public, with strong knowledge of organizational or national laws, rules, and regulations guiding such business. This business could be in any sector; however, water, sanitation and energy were identified as sectors with skills taught in the commerce department in support of the Goals.

Furthermore, Goal 3 Good health and Wellbeing was identified as the Goal with the least relevant content in the core courses, with the only relevant skills identified within the curriculum being transferable statistics skills in COMM 111.

In further analysis, it was obvious that content relevant to at least one goal is present in each core course, but the number of goals addressed in each course varies. COMM and BMGT courses span across all SDGs, attributable to their transferable contents' skills, while the Principles of Marketing (MKGT 115) was observed to have the least of the curricular content presence within the 17 SDGs.

While it has been identified that through its different core courses, the BComm contributes to the implementation of the Goals, it was apparent during the review that there were also gaps which require improvements in the curriculum. These gaps are summarised in Table 4.2.2.

Table 4.2.2 Identified SDGs gaps within the Bachelor of Commerce curriculum

Goal	Knowledge and Understanding	Skills and Application	Values and Attributes
1	In-depth knowledge on relationships between commercial activities, power, inadequate income, power, low standard of living, other factors and climate change effects	Skills to identify the interconnection between positives and negatives of commerce and global crises Ability to speak for and against commerce and poverty	Eager to engage in political activities, planning and decisions with regards to societal status or groups linked to commerce. Intention to positive impacts in business having environment, society, and economy is of utmost priority.
2	Understand the interlinkage between business, trade, commerce, climate change and ecosystem sustainability Exploring new area and knowledge in commerce within sustainable agribusiness, environment, food distribution and supply Understand and promote the essential human requirement for nutritious food commercial system Understand commercialization involved in agroforest, ecology, conservation, and diverse livelihood	Have skills in commerce policy formation at different levels with regards to welfare, food, and agriculture Have commerce skills that support good wellbeing, appropriate lifestyle, effective land use, reduced or eliminate climate change effects where possible	Commitment to support sectoral policies at all levels Respect local commerce systems Increase and support innovation, transformation and ideas on commerce researches Promote unfairness in commerce and protect rights within the sector
3	Understanding the effects of commerce and its management in cases of emergency Knowledge of potential health or mental abuse in business and Commerce Understand commerce policy formation to health and well being Knowledge in commerce linked to health researches	Ability to relate fitness and business Promotion of e-commerce and healthcare skills Ability to manage commerce in health emergencies	Committed to promoting commerce, trade, and business with priority consideration to the health and wellbeing. Uphold uprightness and lack of bias or discrimination in the commerce sector
4	Understand education in commerce and it interlink to sustainable development Knowledge in science and technology contributed to the commerce sector improvement Understand individual rights to commerce within territorial boundaries Knowledge of capacity building in commerce fields as well as appropriate teaching and learning	Able to identify individuals' areas of interest in commerce education in relation to sustainable development and assist in building such interest Ability to identify and support gender neutrality in commerce education Ability to transfer to different educational levels the multisectoral commerce knowledge gained from teaching, learning, and investigation.	Promote gender neutrality in the commerce field Appreciate local knowledge in commerce Value and support commercial education capacity building Value commercial education as one of the numerous human right

5	Understanding challenges associated to women and girl's participation in commerce sector Knowledge of gender neutrality in commerce field and need for its inclusion in laws and regulations Understand the need for men and boy's discussion towards gender equality within commerce industries	Ability to exercise, recommend and implement gender equality in commerce sectorial activities Ability to monitor and evaluate gender disparities in allocations within the commerce field.	Encourage, support and consider women's participation in commerce policy, plans, and designs Value advocacy in gender neutrality within commerce industry and Commerce education
6	Knowledge of inequalities in commerce and business with regards to sustainable clean water access and use and its effect on the environment, society, and economy. Understand innovation technology in clean water availability, access, management and interlinkage to commerce	Develop skills or model to monitor commerce and water accountability Analyse trading concerning water availability and climate change Skills for water merchandise, its management, and governance	Awareness of water scarcity and transparency in its trading Support the reduction of the poor water marketing system and its secondary or transfer effect on the environment and society Support the process of making clean water valuable hence reduction of wastage
7	Knowledge and research on trade and investment on green economy Understanding the clean energy market, cost, and competitions	Skills on commerce designs about clean energy modelling Ability to evaluate trading in present energy systems as well as its transition Ability to update oneself on innovative energy system or proposed energy model and its commercial implications	Support change and development to greening within the commerce industry Advocate for affordable clean energy through a commercial system
8	Understand the technological role in commerce Knowledge of how commerce evolves with a change in society and how to fit in Knowledge of trade rights for all groups and management of unemployment Understand assumptions associated with economic growth and trading system Knowledge of gender equality in the economic workforce, income and its associated progression and development	Skills for evaluation, decision, and judgment on capitalism concerning trade and commerce Ability to manage wage and position equality within commercial work system for all	Support value for time, efforts and innovations within the commerce field Advocate for neutrality and gender equality with the trade and commerce sector The belief that individuals can make difference within the commercial workforce Support resilience in commerce industries
9	Understand possible complexity on environment, politics, society and	Ability to engage in support and arguments for innovation and	Advocate for sustainable industries through commercial

	economy about commercial industries. Knowledge of industrialization, innovation, development and trading system (e-commerce) Knowledge of commerce and transportation system interlinked to pollution and climate effect	development and improvement through the lens of commerce for private and public sector Skills of sustainable commercial planning and thinking incorporated within industries and infrastructure	skills Promote technology, research and development incorporated in commercial systems and trading
10	Knowledge of commerce, finance, economic models and their effects on inequality Understanding commercial investment and rights of migrants Understand inequality linkage with commerce across wages, status, and groups	Skills on transparent commercial governance and leadership Inclusion and participation of all groups with no discrimination within the commercial and marketing sector Skills to review and audit positions for fair inclusion purposes within the commercial sector	Support transparency and fairness in trading between developed and developing countries Promote equality among partners and stakeholder within the business sector Promote laws and policies with fairness, neutrality, and equality within commerce and industries Advocate for migrant rights to commerce and trade Always support the discrimination of inequality
11	Understanding multisectoral trading system within cities and communities on its growth and development Understand the role of commerce in adaptation and mitigative measures taken within community and cities Knowledge of commercialisation of clean energy and energy efficiency within cities and communities	Skills in sustainable trading for resilient and sustainable cities and communities	Appreciate and support local knowledge in cities and communities Promote local values, beliefs, and norms within commercial activities
12	Knowledge in waste reduction and minimization with the use of the trading system Understanding environmental auditing and management concerning production and pricing Knowledge of Commerce and circular economy Knowledge of politics in commerce, scaling up prices and reducing prices on goods produced, sold and consumed Understanding cooperate commercialization and management of resources Knowledge in dynamics and correlation involved in commerce, production, growth, degrowth, and development	Skills on commercial production, consumption and footprints trade Skills on commercializing CSR services outsourced Ability to align industrial planning and commerce	Open to commercial changes to detected negative impact Promote sustainable lifestyle and marketing in commerce field Support government and stakeholder's decision on the circular economy through Commerce

13	Knowledge of commercial climate action on adaptation and mitigation such as carbon pricing and offsetting Understanding governance, policies, and participation in the carbon-climate trading system Understand climate projections and their associated commercial costs and risks Knowledge of risk areas of commerce with regards to vulnerable populations, social change and climate change	Commerce, trading and marketing skills on the proper environment and climate change action compliance management Skills on the commercial implication of policies and approaches to climate actions	Promote commercial measures and advocacy to climate responsiveness Support leadership and influence climate actions and ethics through a trading system
14	Knowledge of commerce in a marine ecosystem with regards to its resources and vulnerabilities Knowledge marine renewable energy and trading system Knowledge of water infrastructure and marine technology trading system Understanding aquatic animals and commercial activities	Ability to express commercial aspect of water infrastructure, profiling, innovation, and technology	Support ocean management, technology, and governance through commerce and trading Support sustainable marine life in its ecosystem by imposing strict rights to commercialisation in the marine sector Advocating the importance of commerce in the marine world
15	Knowledge of complexities involving commerce and change in land use due to climate change Understand impact on carbon emissions of commercial decisions concerning land use and primary production processing and transport, and hence on business, society and the environment Understand interlinkage between commerce, animal and plants production as well as landscaping Knowledge in commerce and low carbon system Understand Emissions Trading Scheme in relation to land use Knowledge of commercial opportunities and risks in low carbon, regenerative farming systems	Skills to include trading systems in land use, allocation, low carbon systems, and sustainable agriculture	Promote biodiversity and conservation of plants and animals through commerce Advocate on the commercialization on land resources and proper management to maintain sustainability Support price caped on pollution and wastage
16	Knowledge of commercial rights, equity and justice Understand commerce and associated envisaged conflicts	Ability to relate commercial rights to migrants Skills to discourage commerce involved in violence and illegal	Promote gender inclusion and consideration in commercial rights, equity, and justice.

	Knowledge of commerce and tourism Understanding national and international commercial law	transactions Ability to understand commerce application in multi sectors, peaceful management, and governance	Eagerness to call for democracy in the commerce sector Support fairness and lack of bias in practicing commerce within the industry Willingness to take responsibilities and account for commercial actions and value proposed solutions to the problems
17	Knowledge of commerce, governance and management in public, private and public-private partnership within a single or combined sector Understanding transparency in commerce, collaboration in industries and reliance	Ability and skills to transfer commercial knowledge and its interlinkage with other global Goals.	Support and adopt communication, networking, and its associated new technologies applied to the commercial sector. Willingness to learn multi-sectorial commerce application of human, capital, natural and non-natural resources, and its implication to economy, environment, and society Value commerce knowledge transfer and capacity building always. Appreciate local knowledge in partnering

4.3 Lincoln Bachelor of Agriculture curriculum and the SDGs

According to the Graduate Profile, the Lincoln University Bachelor of Agriculture degree aims to equip students with sound knowledge and skills to tackle global issues within the agricultural sector, either directly or indirectly, regardless of whatever agriculture-related job, role or private practice graduates from the department are involved in. The programme intends to instil a broad interdisciplinary perspective through knowledge in science, research, culture, principles and collaboration within and out of its sector. Skills, values, and knowledge developed during the study's duration and delivered through courses will foster the achievement of the graduate profile.

The Bachelor of Agriculture has twelve core courses. These are Land People and Economies (LINC 101), Chemistry 1A (PHSC 101), Primary Industries Systems (MGMT 103), Plant Science 1 (PLSC 104), Animal Science (ANSC 105), Principles of Farm Management (MGMT 201), Biometrics (QMET 201), Agricultural System and Sustainability (MGMT 203), Plant Production System (PLSC 204), Livestock Production Science (ANSC 213), Soil Management (SOSC 224), Agricultural Practicum (AGRI 393).

These core courses were reviewed alongside the programme's graduate profile and referenced to the SDGs framework requirements. The areas of support identified are presented in Table 4.3.1., showing interlinkage between the BAg curriculum and the SDGs.

Table 4.3.1 displays curriculum core course contents and course codes for the completion of the graduate degree of Bachelor of Agriculture which are in support of the implementation of the SDGs. Figure 4.3.1 displays the course codes of the courses with content related to each SDG while Figure 4.3.2 presents the SDGs relevant content presence of the core courses.

The contents of the tables are based on the Osman et al. (2017) Curriculum framework for the SDGs for tertiary institutions. Tables 4.3.1 and 4.3.2 show the similarities and gaps identified and interpreted from Graduate Profiles and Core courses outlines of the Bachelor of Agriculture

Table 4.3.1 Bachelor of Agriculture compulsory courses content matched with the relevant UN Sustainable Development Goals

Goal	Course Topics and Codes
1: No poverty 	Introduction to global issues, developing strategies to reduce poverty and Solutions to wicked environmental problems, economics markets, and values, Dairy production in Canterbury, primary food production, population and demographic change, globalization and mobility, global challenges. LINC 101 Understanding the structure and enhanced functions of animals' reproduction and food production, considering agricultural risk vulnerability. ANSC 105 Breeding, Commercial Livestock Production, Intensive Agricultural System, Milk harvesting. ANSC 213 Crop and Animal farming projects. AGR1 393 Forestry, Biodiversity, Animal Welfare, Intensive Dairying's Management, Land use management. MGMT 203 Financial management (gross margins, cash, profit, wealth), Deer Industry, decent food, forestry, meat, wine, dairy, wool processing cropping, horticulture. MGMT 103 Production Economics, Risk and Sensitivity, Budget, Dairy payment, deer, roping, beef, sheep dairy systems. MGMT 201 Food Science Production. PHSC 101 Plant Science, Seed Germination, plant growth. PLSC 104 Pasture and Crop production, Cash and Forage crops, pastoral and cropping enterprise. PLSC 204 Scientific and statistical analysis, association, distribution, relationship, population, samples, variation, comparison, data summary, visualization.QMET 201 Soil Fertility evaluation and Nutrient management. SOSC 224
2: Zero Hunger 	Land-use change and their societal impact (social, economic and cultural), Agriculture, Soil characteristics, food production, dairy production, dairy farm, biosecurity threat, Climate change, food security, population and demography, Externalities, Agro-ecology. LINC 101 Understand disasters, animal food production. Food Security and Animal Nutritional needs, Conservation agriculture, Animal wellbeing and welfare, diverse livelihood. ANSC 105 Grazing, Breeding, Livestock Production, Intensive Agricultural System (Pig, poultry), Milk harvesting. ANSC 213 Crop and Animal farming projects, agricultural practices and external factors, milk production, crop grazing and harvesting, sheep and beef. AGRI 393 Forestry, Biodiversity, Animal Welfare, Intensive Dairying, Soil Management. MGMT 203 Deer Industry, ethical food, forestry, meat, wine, dairy, wool processing, NZ cropping. MGMT 103 Budget and dairy payment, Dairy Intensification, Deer, Cropping, Sheep, Beef systems. MGMT 201 Food and Agricultural Science production (Organic compound, biomolecules, Esters, Carbonyl compounds). PHSC 101 Plant Science, Plant Biology, Botany, Seed Germination, plant growth. PLSC 104 Pasture production, cropping (forage and arable), sustainable animal husbandry, herbage production, grazing management. PLSC 204 Scientific and statistical analysis. QMET 201 Soil fertility evaluation, nutrient management, cultivation and soil conditions, plant growth, crop yield, fertilizer and fertilizer use, damage soil restoration, crop rotation, organic manures. SOSC 224
3: Good Health and Well-being 	Principles and relationship between nutrition, reproduction, lactation and growth across animal species for optimal health. ANSC 105, 213 Agricultural health (plants, animals, livestock's, birds and fish) and its effects on human, Animal agriculture, human health, and well-being-related professions Understand the concept of agriculture in emergencies. ANSC 105 Principles and relationship between nutrition, reproduction, lactation and growth across animal species for optimal health. ANSC 105, 213 P, N mitigation and losses, Animal welfare, Pollution reduction, Quality water use, Animal welfare, Organics and Chemical use, Nutrient budgets. MGMT 203 Human changes to ecosystem. LINC 101 Organic compounds for food production. PHSC 101 statistical analysis. QMET 201 Fertilizer use, nutrients management, fertilizer evaluation. SOSC 224

4: Quality Education 	Research, guest speakers, writing, and assessment. Continuous learning and updating skills on interdisciplinary roles to solve problems, Global and local agricultural practices. MGMT 103 Agricultural Science and Technology. ANSC 105 Management and governance in Crop and Animal farming projects. AGRI 393 Social sustainability, Environmental Plan, Social Licence to farm (farming rights), Maori concepts on Sustainability, Resource Management Act. MGMT 203 Food and Agricultural Science Production. PHSC 101 Plant Science. PLSC 104 Agriculture and Agricultural Science research .PLSC 204 Plant and soil testing, plant growth, crop yield, fertilizers and organic manure. SOSC 224 Education for common good. LINC 101
5: Gender Equality 	Sustainable resource (human and natural) management system and best practices. MGMT 203, 201 Sexual growth, functions, and development. ANSC 105 Social license to farm, Managing labour, Field trip. MGMT 203 Financial management, budget and dairy payment, labour, farmers' decision making. MGMT 201 Statistical analysis. QMET 201
6: Clean Water and Sanitation 	Soil water relationship yields water flow, irrigation scheduling, and drainage. SOSC 224. Natural resource management in the agricultural system. MGMT 203 Water and water quality, sustainable water use, Water watch, Assessing water quality. MGMT 203 water security, access, budget and management practices in Crop and Animal farming projects. AGRI 393 Water, Lake Ellesmere. LINC 101 Irrigation. PLSC 204 Statistical analysis. QMET 201 Soil water flow, yield-water relationships, water protection, water usage, and soil water balance.SOSC 224
7: Affordable and Clean Energy 	Agricultural and primary industrial system operation and resources, business and marketing. MGMT 103 Scientific and statistical analysis. QMET 201
8: Decent Work and Economic Growth 	The farm as a bio-economic unit employing the basic resources of land, labour, capital, management, and technology. MGMT 201 Animal functions, growth, development, and livelihood, Knowledge in Nutrition, genetics, reproduction and lactation skills set. ANSC 105 Animal husbandry and specialisation, Milk production and economic growth, agricultural systems, science, and technology. ANSC105 Commercial Livestock Production, Breeding, Intensive Agricultural System, Milk harvesting. ANSC 213 Crop and Animal farming projects; milk production, crop grazing and harvesting, sheep, and beef. AGRI 393 Social sustainability: Managing labour, what concerns farmers, Intensive dairying, Forestry, Agriculture and Biodiversity, Farm Carbon. MGMT 203 Food and Dairy production. LINC 101 Primary Industry system, Wine, Deer, Meat, Wool, Food, Dairy, Processing and Marketing, Horticulture, Forestry. MGMT 103 Labour, Capital, Land, Dairy Intensification, Cropping, Sheep and Beef System. MGMT 201 Food and Agricultural Science production. PHSC 101 Plant Science, Plant Biology, Botany, Seed Germination, plant growth. PLSC 104 Pasture Production, Grazing management, Crop farming, Cash and Forage Crops. PLSC 204 Scientific and statistical analysis QMET 201 Plant growth, soil and plant testing, nutrient management, fertilizer evaluation. SOSC 224

9: Industry, Innovation, and Infrastructure 	Emphasis on the use of science and technology in agricultural, horticultural, forestry, food systems and management. MGMT 103, 201 and PLSC 204 Animal Welfare, genetics, control of male and female production function. ANSC 105 Commercial livestock production systems. ANSC 213, 105 Crop and Animal farming projects for commercial and industrialisation purpose; milk production, crop grazing, and harvesting, sheep and beef. AGRI 393 The Market rules, International Marketing, Managing labour, Intensive dairying, Social sustainability, European Strategies. MGMT 203 Food and Dairy Production. LINC 101 Supply chain, Primary industry system, Marketing, Financial Management. MGMT 103 Land, Labour, Capital, Dairy Intensification, Cropping, Sheep and Beef System. MGMT 201 Food and Agricultural Science production. PHSC 101 Plant Science, Plant Biology, Botany, Seed Germination, plant growth. PLSC 104 Pastoral and Cropping industry. PLSC 204 Scientific and statistical analysis.QMET 201 Plant growth, soil and plant testing, nutrient management, fertilizer evaluation. SOSC 224
10: Reduced Inequality 	Nature of land rights. Indigenous Knowledge, Land Ownership, The Treaty of Waitangi, Maori and land use. LINC101 Social responsibilities on roles and functions in the agricultural system and production within society and the political environment. ANSC 213 Social sustainability: Managing labour. MGMT 203 Financial management, labour, farmer decision making, budget and dairy payment. MGMT 201 Agriculturalist functions as producers and industries representatives. PLSC 204 statistical analysis. QMET 201
11: Sustainable Cities and Communities 	Farm planning and resource allocation; land tenure. MGMT 201 Land use planning patterns in NZ, Cultural and Social dimension to land (Maori and land), Population and demographic change. LINC 101 Land Use and Environmental Protection, ECan, Resource Management, Environmental Plans, Land use class, Forestry. MGMT 203 Horticulture, Environmental Issues. MGMT 103 Plant Science, Plant Biology, Botany. PLSC 104 Scientific and statistical analysis. QMET 201 Plant growth. SOSC 224
12: Responsible Consumption and Production 	Principles of growth, production, reproduction, and utilization. Commercial livestock production systems, Breeding, Grazing. ANSC 213, 105 Production System and Management. MGMT 201 Fertility, Crop, and Animal Production. AGRI 393 Industrial plants and common weeds of importance in primary production. PLSC 104 Agricultural, horticultural, and forestry production systems. MGMT 103 Food, Pasture, and Crop Production. PLSC 204 Crop and Animal farming projects, milk production, crop grazing, and harvesting, sheep and beef by-products. AGRI 393 Resource use, Intensive dairying, and pollution. MGMT 203 Food and dairy production. LINC 101 Dairy intensification, Cropping, Sheep and Beef System. MGMT 201 Food and Agricultural Science production (Organic compound, biomolecules, Esters, Carbonyl compounds). PHSC 101 Plant Science, Plant Biology, Botany, Seed Germination, plant growth. PLSC 104 Agriculture and Agricultural production. PLSC 204 statistical analysis. QMET 201 Plant growth, nutrient management, soil water, irrigation scheduling, drainage, fertilizer use, crop rotation, cultivation. SOSC 224

13: Climate Action 	Environmental factors impact on plant growth. PLSC 104 Hydrocarbons and applied sciences (biological and environmental science.) PHSC 101 Farming Carbon and Emissions trading, Challenges, Climate change, greenhouse gas emissions, and mitigation. Land use management, Maori concepts of sustainability. MGMT 203 Crop farming practices, crop rotation, bush fallowing, grazing, and harvesting. AGRI 393, MGMT 201 Climate Change, climate and weather, population. LINC 101 Horticulture, Forestry, Environmental Issues. MGMT 103 Plant Science, Botany, plant growth. PLSC 104 Pasture assessment, dryland Pastures, Irrigation and externalities for cropping, Conservation, plant species (location and environment) and biodiversity. PLSC 204 Scientific and statistical analysis, distribution, relationship, comparison, data summary. QMET 201 Plant growth, crop rotation. SOSC 224
14: Life Below Water 	Characteristics of aqueous systems, and solubility. PHSC 101 Breeding, Intensive Agricultural System. ANSC 213 Maori concept of sustainability, Habitat, and Biodiversity. MGMT 203 Scientific and statistical analysis, distribution, relationship, comparison, data summary. QMET 201 Soil water, irrigation scheduling, drainage. SOSC 224 Te Waihora/Lake Ellesmere I, II, Dynamic relationship of Māori to land and water, Water. LINC 101
15: Life on Land 	Interpretation of soil properties in the field and its relationship to agricultural/ horticultural production, Crop growth, Plant yield, crop quality, fertilizer and organic manure, Plant growth, soil fertility evaluation, nutrient management, crop rotation, fertilizer use, irrigation, drainage, cultivation, soil water. SOSC 224 Soil management; nutrient budgets; erosion, P and sediment loss, and mitigation; N loss mitigation MGMT 203 Commercial livestock production systems, Breeding, Grazing, Animal Biodiversity. ANSC 213 Crop and Animal farming projects; Topography, soil conditions plants growth, sheep and beef husbandry. AGRI 393 Land use and the role of forestry, P, Nitrogen mitigation and losses, Nutrient budget, Soil management, erosion, land use classification, Maori concept of sustainability, Habitat, and Biodiversity. MGMT 203 Ecology, Ecosystem, Externalities, Land Biophysical Characteristics, Land use planning. LINC 101 Plants in Agriculture, Horticulture and Animal Systems. MGMT 103 Cropping, sheep and beef system. MGMT 201 Food and Agricultural Science production (Organic compound, biomolecules, Esters, Carbonyl compounds). PHSC 101 Plant Science, Plant Biology, Botany, Seed Germination, plant growth. PLSC 104 Pasture production by environment and location, Species identification and cropping, biodiversity, grazing, plant science. PLSC 204 Scientific and statistical analysis, distribution, relationship, comparison, data summary. QMET 201
16: Peace and Justice Strong Institutions 	Legislation and community agreements relating to environmental protection: Resource Management Act, National Policy Statement for Fresh Water Management, Land and Water Regional Plans, roles of zone committees, variations at the district level, Resource Management Act, ECan, Farm Environment Plans, Professional practice, National Policy Statement for Fresh Water Management, Land and Water Regional Plans, European strategies to Environmental Management, Social license to farm. MGMT 203 Land ownership, rights and stewardship, Globalisation and Mobility, Treaty of Waitangi, Land-use Planning NZ, Land Rights, Ownership and stewardship. LINC 101 Global food and resource Issues, Global Agriculture, Farming around the world. MGMT 103

17: Partnerships to achieve the Goal 	Sustainability, Tragedy of the Commons, Social license to farm, emphasis on the rationale and balance between technical, social, economic, and environmental considerations; issues in resource management. MGMT 203 Commitment to Social responsibility, engagement, and an understanding of the contribution of agriculture and food production to humanity's welfare. PLSC 204 Engagement, collaboration and accountability within agricultural practices and cooperating partners. ANSC 213 Integration of Interdisciplinary theories and practice, Food supply chain, Agribusiness, Agriculture and Horticulture formation, operation and Management practices. MGMT 201 Production Economics and Financial Management (land, capital, budget, stock reconciliation). MGMT 201, MGMT 103 Agricultural Production Management Issues. MGMT 103, MGMT 201 Forage crops and pasture assessment. PLSC 204 Principles and practices of sustainable development in plant growth. SOSC 224

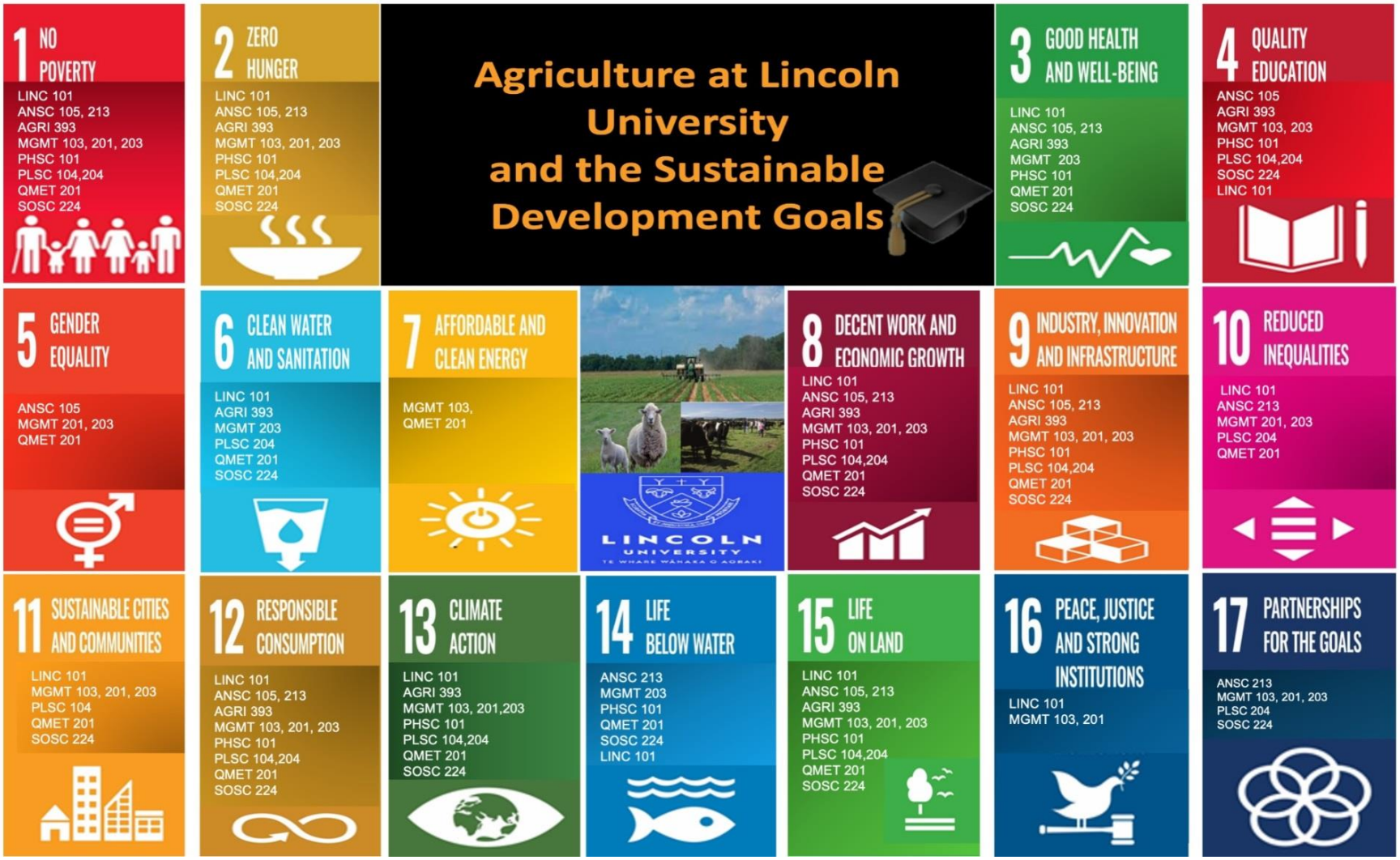

Figure 4.3.1 Bachelor of Agriculture and the Sustainable Development Goals

The Bachelor of Agriculture core courses have content related to each of the SDGs. The reviewed courses span across several disciplines, including science, social sciences, management, economics, and agricultural courses.

Results from the documents reviewed showed that content related to understanding global issues, economic markets and values, primary food production as well as strategies to solve wicked problems taught in LINC 101 links to Goal 1. Similarly, topics related to understanding financial management, gross margin, wealth, production economics, budget, risk and sensitivity in MGMT courses also link to Goal 1. Other PHSC, PLSC, QMET, AGRI and ANSC courses, present topics within their course outlines which link to the same Goal.

Also, land use change and societal impact, agro-ecology, biosecurity threats in LINC 101, food and agricultural science production (PHSC 101), milk harvesting (ANSC 213), New Zealand cropping (MGMT 103) to mention a few, link directly to Goal 2. Knowledge in agricultural growth and production and its influence on the environment in PLSC 104, climate change, conservation, and plant species in MGMT 203, LINC 101, PLSC 204, and MGMT 103 could guide decision making for climate actions (Goal 13). Different core courses present links in various topics and knowledge across the 17 SDGs which is illustrated in Table 4.3.1.

The management system core course MGMT 203 has links in all goals except Goal 7, while MGMT 201 has links to 12 goals, but not goals 3, 4, 6, 14 and 16. MGMT 103 Primary Industry Systems is one of only two courses that has content related to Goal 7 but lacks course content links to Goals 3, 5, 6, and 14.

Also, the science and technology core courses of PLSC, PHSC, ANSC, SOSC, and AGRI presented a fair link of course contents across all the SDGs, but less in Goals 5, 7, 16, and with few links to 6, 14 and 17. Knowledge and skills in statistics and its software packages identified in core course QMET has advantages in its transferable abilities illustrated in its curriculum to support different Goals, however its content had no relation to Goals 4 and 7. In the same way, the course outline for LINC 101 shows links to all the Goals except for Goals 5, 7 and 17.

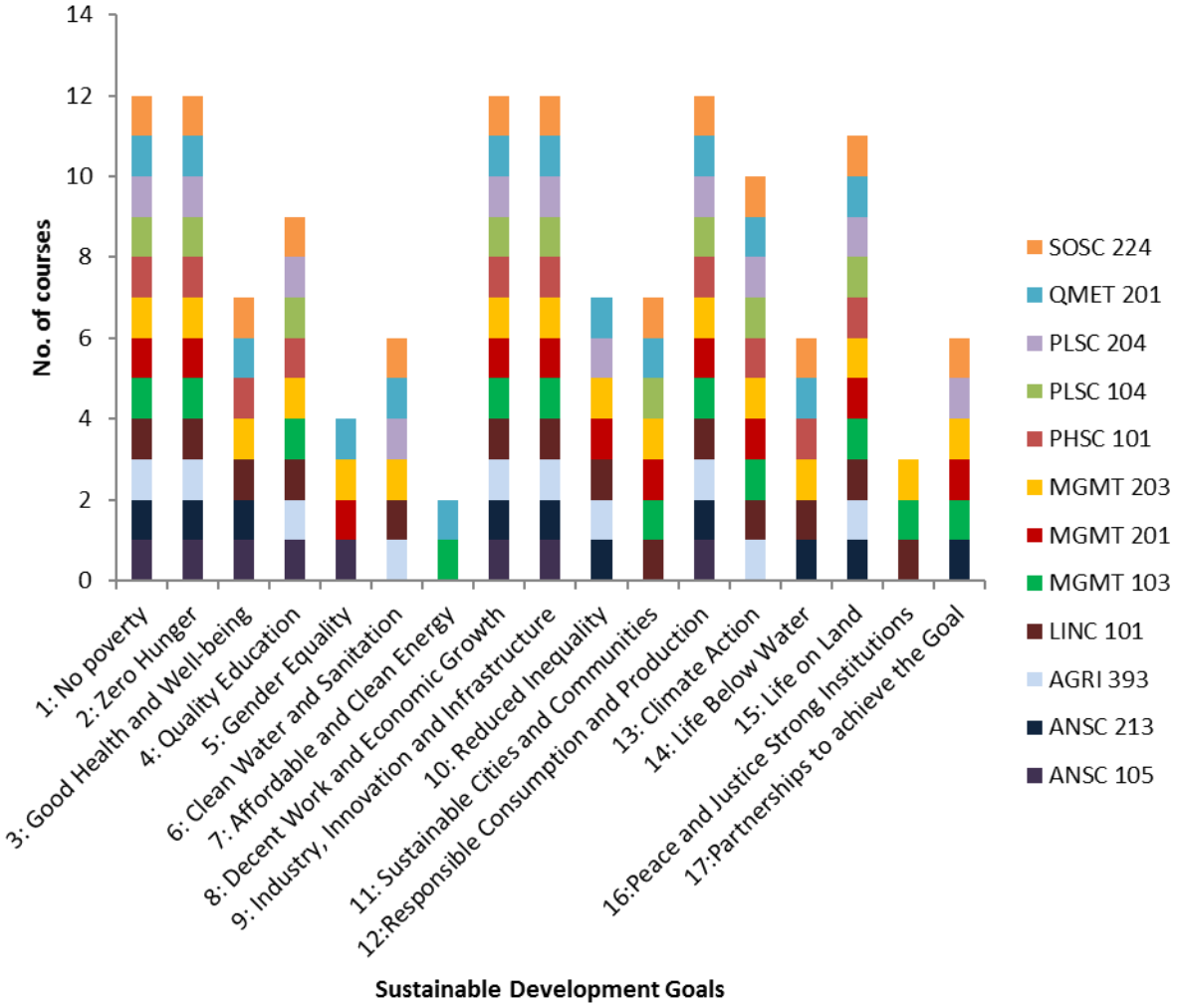

Figure 4.3.2 The Sustainable Development Goals and relevant content presence in the Bachelor of Agriculture core courses

The analysis of the BAg show that its major strengths were mainly linked to Goals 1, 2, 8, 9, and 12, while there was limited content related to Goals 7 and 16. There was little knowledge expressed in the curricula content to show the link between affordable and clean energy (Goal 7) and agricultural production and farming, despite farming operating on at least one or more sources of energy. Furthermore, the Goal of peace and strong institutions in the agricultural system seems to have few course presences, and neither do gender equality and life below water.

It was observed that Agricultural Systems and Sustainability (MGMT 203) has course content linked to almost all the 17 Goals, while Animal Science (ANSC 105) had the least SDGs course content presence.

Although the core courses span across the 17 Goals and its sustainability core course of Agricultural System and Sustainability (MGMT 203), presented high sustainability quality of the programme degree,

there were also some gaps identified. These are displayed in Table 4.3.2 for consideration during curriculum review.

Table 4.3.2 Identified SDGs gaps within Bachelor of Agriculture curriculum

Goal	Knowledge and Understanding	Skills and Application	Values and Attributes
1	Research on agricultural economics contribution to global development	Skills on necessary agric finance and economics	Willingness to influence decision making on agriculture and development Interested in an increase in agricultural political participation
2	Understanding sustainable farming systems its livelihood practices and food supply Understanding the concept of agriculture and food system failure	Ability to formulate sustainable policies and reviews with regards to food, agricultural practices, and wellbeing. Capability to establish the relationship between agriculture, land use and food market systems at all levels	Develop a commitment to sustainable agricultural policy formation concerning food security at all levels
3	Understanding the links between the use of agricultural technologies and their health-related effect	Ability to solve problems using the most recent tool or innovative tools	Committed to improving agriculture with proper health, safety, and environmental consciousness. Motivated to obtain sustainable agricultural production by also engaging suitable physical activities
4	Describe education in agricultural management and governance Comprehensive understanding of Agricultural Education for Sustainable Development	Distinguish between broad agricultural sectors, identify areas of interest, and develop more skills in such areas.	Acknowledge sustainable agricultural education prospects
5	Understand agriculture and gender with an explanation of rights, laws, and regulations. Describe and understand the sexual division of labour in agriculture Understanding equality in agriculture, issues, and challenges of a female in the agricultural sector Understand gender budgeting, plan, and monitoring system in agriculture	Recognise gender neutrality and equality in the agricultural sector	Commitment to support and uphold policies and principles on gender balance in agricultural operations Committed to participate in discussions and support towards education and programmes on equality in agriculture and gender roles
6	Obtain comprehensive understanding of the link between different agricultural practices and water quality. Understand water governance, boundary, complexity, and its effect on economy and agricultural activities.	Ability to identify and utilize cost-effective water use and auditing for agricultural practices Competence in estimating financial requirements for water structure and agricultural systems concerning standard structure or framework Identify and operate technologies to increase efficiency in agriculture and water resources.	Committed to societal change through the adoption of sustainable practices.

7	Understanding sustainable agriculture and energy market structure and governance Describe the concept of agricultural system production and sustainable energy consumption Understand the effects of energy system supply on agricultural ecosystems (forestry, fishery) Understand the role of agriculture in achieving a green economy	Recognise the position of sustainable energy in sustainable agriculture Identify cost-effective green trade opportunities to support agricultural production practices Analyse economic, social and environmental merits associated with the role of agriculture in a green economy Ability to attract stakeholders to support the green economy	Appreciate and focus on adopting renewable energy for agricultural farming practice Develop a commitment to advocate for green economy Embrace changes towards sustainable and cost-effective energy system in agriculture
8	Understand health and psychological effect of hard labour and long hours in an agricultural operation Understand how agricultural extension or expansion can increase employment opportunity and economic growth	Ability to address inequality in recruitment or employment into agricultural vacancies. Ability to compare the effects of capitalism within agricultural sector and the labour market Practical and economic management of human and non-human agricultural resources as well as efficient financial monitoring and management of staff wages	Promote resilience in the agricultural operation, encourage neutrality and inequality Appreciate individual and collaborative efforts to solve agricultural and or agriculture technological challenges among staffs Develop a commitment to support sustainable agricultural livelihood practice regardless of gender type
9	Describe the use of technology in agricultural industries and the need for innovation Develop innovative ideas for sustainable agricultural practices.	Ability to influence decisions in agricultural industries Ability to use some fundamental ICT tools for agricultural activities Recognise different new technology and integrate their functionalities into agricultural infrastructure.	Develop and encourage commitment to innovation in agricultural practices Maintain good agricultural stakeholders' network Commitment to continuous support for sustainable agricultural policies, key influencers, and industrial leaders
10	Understand the fundamentals of agricultural finance and education regardless of class, age, race, sex or status Understand the agricultural system and policy guiding the involvement of migrants and vulnerable population as well as their allowances and remittance Describe the dangers associated with the agricultural sector and inequality across social, economic and other general human welfare	Identify barriers that could hinder equal rights and freedom of choices Ability to audit position on leadership and representatives regarding global and national standard documents on inequality Practice inclusiveness in an agricultural financial market system	Appreciate every effort both financial and human towards agricultural growth Committed to encouraging women in agricultural leadership rights and positions Develop commitment to women, girls and migrant's empowerment in the agricultural business sector Always committed to supporting discrimination in the agricultural sector
11	Describe agricultural design, planning, infrastructure and its alignment to sustainable cities Understand sustainable urban infrastructural network and its applicability to enhance farming and agribusiness	Recognise and implement new agricultural technologies individually and collaboratively within sustainable communities Ability to align urban governance with an agricultural system	Develop a commitment to defend and respond to sustainable agriculture queries within an urban city

12	Describe an agricultural waste management system, global ISO management guide, and auditing schemes Understand theories of circular economy and agricultural contribution Understand policies and political systems of agricultural production and consumption at different levels	Ability to analyse ecological footprint associated with excessive consumption and production Recognise the effects of excess consumption and production on the ecosystem	Committed to driving sustainable agribusiness and consumer's choices Committed to maintain and improve network and relationship between government and policy influencers on agricultural production Appreciate and advocate for responsible agriculture consumerism
13	Understand the fundamentals of climate policies and governance concerning agriculture and adopt an integrating system of climate-smart agriculture governance Describe and understand climate finance in agriculture and adopt a renewable system of agricultural products transportation or delivery Describe the relationship between energy and agriculture	Ability to link and effectively manage climate finance Recognise the dynamics between agriculture and climate governance; build influencing skills for positive change	Proactive engagement, advocacy, and collaboration
14	Understand marine agriculture and sustainability of the ecosystem Understand social, economic, ecology and health implications in marine agriculture Understand marine agriculture and tourism Understand marine waste and agricultural benefits Understand the concept and relationship between agriculture, climate change, energy, and marine life Understanding policies and principles guiding marine reserves and its management Understand improved marine technologies for agricultural practices	Ability to analyse climate change concerning marine agriculture (fishes, mammals, and plants) and advice accordingly Use of innovative techniques to manage marine operations Ability to develop and update policies to guide the implementation of unsustainable fishing, protect marine life and agricultural practices	Encourage sustainable management in the marine ecosystem Advocate for the use of green technology and blue economy model in a marine, agricultural system Adhere to laws and orders guiding land management and water quality which impact on the marine environment.
15	Understanding sustainable agricultural livelihood systems and practices. Understanding crop and animals' resistivity to adverse effects which included pest and climate change	Recognize and integrate indigenous knowledge	
16	Understanding some agricultural training practices and government schemes. Understanding conflicts in agriculture and resolution Describe the fundamental concept of agricultural law and governance on farming, land use, water, natural resources, food production, consumption, and sustainability	Ability to promote various labour force with discrimination and avoidance of child labour in the agricultural sector Ability to analyse laws relating to migrants, poverty, food security, agriculture, and livelihood	Support in the establishment of a peaceful and fair agricultural institution Committed to supporting unbiased agricultural policies and laws accommodating migrants and respect for diversity

17	Understand the functions of agricultural cooperation in agricultural education Understand government officials and other partners' duties in monitoring, evaluation, and review processes within agricultural sectors. Describe agricultural sector planning concerning government targets on national or local agriculture and food production	Ability to review strategies, promote sustainable policies to drive sustainability agriculture as a shared agenda across partners	Practice unbiasedness or discrimination across agricultural actors Maintain quality agricultural data capture and support its use for analysis and decision making

4.4 Summary Discussion

The core courses of the Bachelor of Landscape Architecture, Commerce, and Agriculture were interlinked to one or more SDGs, however applying the skills, knowledge and values with a high level of sustainable thinking is crucial and becomes a critical and essential part to consider. A concern arising from the analysis is that in the three programme degree core courses reviewed; only a course with prime focus on sustainability (Agricultural Systems and Sustainability MGMT 203) was identified as a compulsory component for the completion of the degree. This could be a matter to consider within programme degrees to avoid students' confusion on how their topics or courses relate to Sustainable Development Goals.

For all the degrees, there was a dependence on introductory courses for much of the SDG coverage, which could mean students acquired only an overview of what is required to achieve the Goals. If a student fails to select higher level elective courses with similar but advanced contents to the subject area before completion of the programme, they may graduate with only a shallow knowledge and understanding of the subject areas.

Also, the graphical tool used in representing the areas of core course contents and interlinkage with the SDGs could be said to be visually pleasing and clearer to understand than the tabular analyses. This graphical representation could assist students to question knowledge gained, understand how that knowledge can support the goals, make informed decisions on advanced or optional higher level courses within the specific or related area of interest, and sometimes could influence quests for increased sustainability knowledge. However, this graphical tool portrays only the positives within a curriculum linked to the SDGs and not the gaps that exist.

Mapping Lincoln University's Graduate Profile with reference to the Curriculum SDGs framework has presented a comprehensive knowledge of the curriculum contribution in different sectors. This type of analysis has revealed the priority goals, strengths and weaknesses in higher education curricula. Franco et al. (2019) argue that this could be an improved approach to mapping universities' curricular SDGs contribution.

The result showed that degrees reviewed within the university have contents and delivery processes aligned to the SDGs' objectives in different ways. Use of Osman et al.'s (2017) Curriculum framework for the SDGs, as a reference for assessing the programme degree, showcased each degree's uniqueness in skills, knowledge, and values imparted in the present and future generation with a significant highlight on their priority SDGs and interlinkages. It reduces the idea of boundary limitations of discipline, blending skills and concepts in a wider perspective while increasing the level of visibility of study programmes.

Using this framework, this dissertation has presented a comprehensive study of three-degree curricula across the SDGs which are much more in-depth when compared to the keyword search adopted by some earlier researchers.

Furthermore, the keyword searches used by some researchers provided limited details and sometimes inaccurate interpretation of curricula sustainability content. The use of the referenced framework broadened the understanding of SDGs content requirements and provided an avenue to exercise proper content interpretation, as discussed by Tierney, et al. (2015).

Again, while the framework seems to be a good tool to adopt for a thorough comprehensive analysis of SDGs linkages within curricula contents for an educational institution, it requires critical thinking, interdisciplinary understanding of skills, knowledge and value transfer from courses to aid interpretation and linkage.

Chapter 5

Conclusion

Education's function in support of the global agenda remains unique and vital in its actualisation. The review of programme degrees within the faculties illustrates Lincoln University's position in contributing to the global goals and presents the diversity of SDG topics offered in a course. Prior to this study, one barrier for sustainability was the unclear nature on how commitment to the SDGs relates to graduate programmes and the importance of sustainability literacy in a curriculum. This supports the argument by Winter and Cotton (2012) that lack of belief in a discipline's relevance on sustainability is a major drawback to achieving a sustainable future. Students often obtain degrees with limited information on interconnection between the SDGs, and some relate sustainability to just environmental issues, while others struggle to comprehend the possibility of completing a degree programme such as Commerce or Landscape Architecture from a land-based institution and obtaining understanding, attributes, norms and values to support the implementation of the 17 goals.

The Osman et al.'s (2017) Curriculum framework for the SDGs shows holistic strategic efforts of education's contribution towards the SDGs within Lincoln University's curriculum which could serve as a baseline appropriate to support sustainable actions and a reference guide for SDGs' curriculum mapping exercise within programme degrees. The degrees reviewed were a pilot for the use of Osman et al.'s (2017) Curriculum framework for the SDGs. Its content provides room for transparency and accountability in support of the goals. The results presented a clear and comprehensive overview of course content related to each goal and their interconnection, allowing the scepticism earlier mentioned to be reduced. Most of the degree content did not have the keyword of sustainability or associated words incorporated in it, hence the courses were interpreted based on a sustainability perspective on the course content's ability to promote longevity, capacity building, boost resilience and maintain survival which according to Scheirer (2013) could ensure continuous improvement of society, environment and economy. It requires clear understanding of how individual degree programme on teaching and learning systems, responsibility and professional practice upon graduation, aligns with the SDGs.

When reviewed through the lens of the aforementioned Curriculum framework for the SDGs, each core course has a unique role to play in at least one theme of the goals, while the other courses for the completion of the respective degrees have the knowledge required to complement different goals. The graduate profiles and core courses identified their Knowledge, Skills and Values contributions through topics taught within the courses, which include exercises, field trips,

assessment and teamwork. This instils in students both moral and technical knowledge, values and skills to support the goals thereby graduating future generation leaders with competences to remain relevant within the global sustainable sphere.

The interlinkage and collaborative ability of the aims and learning outcomes of the core courses within Lincoln University's curricula stands as a strength to contribute to the economy, environmental and societal global improvement. However, there are weaknesses with respect to less emphasis on recognising the connection of programme courses to the goals, linkages between the goals and on transferable skills to support other goals. There is also an opportunity to increase awareness and visibility of how the programme degrees can contribute to the achievement of the SDGs. This calls for consideration of how to improve the content and delivery process when a curricular review is being conducted (Gough & Longhurst 2018).

The mapping exercise tool was convenient to communicate the connection of the higher education curriculum to the SDGs. Its output matrix serves as an instrumental tool to increase SDG awareness in staff, students and the wider community on discipline and professional topics that link to the global agenda. This could be adopted to visualise and monitor SDGs changes within any degree curriculum. The tool presents Lincoln University's programme degree core course topic as a baseline and reference to the support of education for sustainable development goals. However, it is recommended that the observed gaps could be filled if each degree programme solely has a core course specifically for sustainability as each programme degree is distinct in its sustainable development goal content and linkage. More so, it could increase the possibilities of having more agents of change, deepen sustainability understanding and avoid the superficial knowledge offered by the core courses at the early stages of the degree study programme.

Although learning and teaching practices found within curriculum could influence sustainable actions in support of achieving the goals, reality lies in the way the knowledge, skills and values gained within the institution are used in the society of which as Buchroth & Parkin (2010) argue it depends on a person's beliefs and values. This could be further researched through surveys of alumni on their values, job roles and achievements which were not covered within this scope of the study.

Lincoln University could enhance its continuous strategic objectives on the contribution to the implementation of the United Nations Sustainable Development Goals upon high-level review and amendment of the curriculum to include an emphasis on sustainable thinking, sustainable use of materials where necessary and clear understanding on how each course and topics are connected and integrated to the SDGs. Regardless of the amount of change from Education for Sustainable Development curricula review towards the SDGs, a positive impact can be felt on a student's experience which could influence personal and professional sustainability choices (Consorte-McCrea

et al., 2017). This could be enhanced with regular capacity building on education for sustainable development for staff and refresh knowledge of the global goals in relation to their discipline. The continuous SDG capacity building and refresher knowledge for staff is paramount in the success of improving SDGs support through knowledge, skills, and values within program degree of Lincoln University as it could bring a positive transformative change relevant to the society, creating a better sustainable future for all and supporting the vision of a sustainable land-based institution.

Appendix A

Curriculum framework for the Sustainable Development Goals

Knowledge and Understanding	Skills and Application	Values and Attributes
Goal 1: No Poverty		
• Complex understanding of the relationship between poverty, economics, power, conflict, inequality and other environmental, social and economic issues. • Research on global development and current societal need to identify skills demand in priority industries. • In-depth research on poverty alleviation and sustainable development, locally and globally. • Financial education to improve micro-finance projects. • Research the relationships between poverty, vulnerability and other stressors that are impacted further by climate change.	• Complex financial and economic skills. • Skills to support development co-operation activities. • Ability to explain the relationship between poverty and other economic, social and environmental shocks and disasters. • Application of data collection and analysis skills to develop strategies for poverty alleviation (e.g. report on consequences of poverty). • Identify methods for mitigation and resilience. • Ability to participate in debates related to poverty.	• Concern for social justice. • Pro-poor awareness. • Willingness to engage in social, economic and political inclusion of all groups (including vulnerable populations, disadvantaged groups and migrant workers). • Motivated to influence decision making related to poverty eradication, and participation in pro-poor development and poverty eradication activities.
GOAL 2: Zero Hunger		
• Research on food security and basic nutritional and calorie requirements for human populations. • New areas of training in agriculture and food supply: environment and natural resource management, biotechnology, farming systems management and agribusiness. • Conservation agriculture and agroforestry for enhancing food production in an ecologically sustainable fashion, and for providing mechanisms to expand and diversify livelihood options. • Research on how to optimise conservation agriculture practices, including agroforestry and farmer-managed natural tree regeneration, conservation tillage, contouring and terracing, and mulching for strengthening ecological and social resilience. • Impact of climate change on food security (production, access, availability, including transport, processing, storage, marketing and	• Building socio-economic resilience of communities through climate-smart agriculture. • Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production. • Ability to consider the relationships between nutrition, lifestyle, health and disease, and take appropriate measures. • Understanding of diversity, interdependence and global connections that are critical to achieving and maintaining food security and eliminating hunger. • Develop policies for the food and agriculture sectors (both agriculture and fisheries) and welfare policies. • Adoption of sustainable land use practices.	• Commitment to developing national policies and mainstreaming of food security concerns and awareness, at all levels. • Adopt transformational change in agriculture and food systems to address environmental, social and economic challenges, and contribute to social equity and environmental stewardship in contexts of natural resource scarcity. • Protect, promote and monitor rights and non-discrimination: right to adequate food and to be able to feed oneself in dignity, and all other related rights employment, land and water rights, with a focus on marginalised groups, poor households, children and women.

consumption). • Climate change, energy, agriculture and food security nexus, within the context of sustaining and enhancing ecosystem services and agrobiodiversity.	• Understanding of potential interactions between climate change and other key drivers of food prices that act at national, regional, and global scales, and how these can be moderated. • Generate human capital for research and advisory services.	• Resilient to climate change impacts on food security including on livestock, fisheries and aquaculture. • Respect for traditional medicine and indigenous knowledge systems. • Enhanced producers' capacities for innovation, and generating human capital for research and advisory services.
GOAL 3: Good Health and Well-being		
• Training in surge capacity for emergency response and preparedness. • Development of expertise and research in health related issues and policies. • Knowledge of signs of physical and emotional abuse and child abuse. • Understanding of complex links between health, vulnerabilities and environmental factors (e.g. climate change). • Understanding of social determinants of health and social environments affecting health and well-being, and of how behaviours are shaped/constrained by contexts. • Understanding of the link between physical activity in childhood and adolescence, and lifelong physical activity and active living.	• Ability to rapidly respond to health emergencies. • Skills to work collaboratively and effectively in inter-professional teams and with knowledge on social determinants of health and public health. • Promotion in attitudes and skills with reductions in risk behaviours. • Capacity for healthcare innovation and biomedical research. • Ability to use sport as a tool to contribute to broader development outcomes. • Research to support improved health and well-being (e.g. access to safe water), and strengthening research initiatives. • Applied knowledge and understanding to promote active living (e.g. design, implement and evaluate inclusive physical activity).	• Understanding the health, social and economic benefits of sport and physical activity participation across the lifecycle. • Motivated and empowered to deliver quality care that is appropriate and acceptable to the socio-cultural expectations of the population. • Respect needs of vulnerable groups and eliminate discrimination (e.g. gender, HIV). • Belief in quality healthcare for all. • Public service ethics, professional values and social accountability attitudes requisite to deliver responsive and respectful care. • Committed to people-centred health services. • Commitment to inclusive physical education and activity, and regulation to promote inclusive and equitable participation.
GOAL 4: Quality Education		

• Education as a public good. • Education as a global common good. • Education as a fundamental human right and a basis for guaranteeing the realisation of other rights. • Sustainable development education and lifelong learning. • Teacher education, pedagogy and andragogy. • Competency–based curriculum and assessment of learning outcomes. • Governance and management. • Science, technology, engineering and mathematics (STEM)–related programmes and courses. • Living and working with children: growth and development programmes for parents and teachers. • Training to improve the capacity of the early childcare workforce. • Understanding of the range of human rights as interrelated with education. • The situational domain of teaching and learning nationally and globally. • Understand the concept of education for sustainable development.	• Reconceive education to allow space for diverse ways of knowing and new ways of being and becoming that reflect inclusivity. • Build on SDG 4 to find out where people's true interests lie and help to make training in these fields possible. • Describe the relationship between education and sustainable development. • Describe the situational context of learning in local and national domains. • Analyse the role that educators might play in degendering education. • Research factors that affect success in primary and secondary education. • Application of knowledge to create age-appropriate learning environments for pre-schoolers and primary school pupils. • Ability to deliver education based on the multifaceted nature of and the various influences on child development and the universal rights of children (the right to food, shelter, safety and a peaceable existence).	• Appreciation of the intrinsic value of quality education for all. • Ambition to succeed in the larger community and the global realities of work and life. • Appreciate and value the social benefits of education. • Value different forms of knowledge including indigenous knowledge. • Value education as a tool to act upon societal inequities. • Appreciate education as a fundamental human right. • Awareness of the value of inclusivity. • Appreciation of gender equality. • Commitment to the human rights agenda. • Contribute to nation building and economic and social development through education. • Value ECCE as the starting point for lifelong learning. • Empowered kindergarten teachers and mothers, especially from underserved families.
GOAL 5: Gender Equality		
• Barriers to women's education and economic participation. • Teacher development and awareness of hidden curricula. • Teacher development of inclusive education for girls. • Encouraging men/boys to participate in discussions on the	• Analyse the role of the hidden curriculum in education. • Ability to develop gender-neutral curricula and implement gender-neutral teaching practices. • Give equal attention and treatment to boys and girls.	• Awareness of the hidden curriculum and how this support gender inequality. • Deepen understanding of gender inequality, particularly within education settings.

impact of patriarchal social relations. • Focus on boys for developing an understanding of equality. • Laws and regulations that guarantee women and men full and equal access to sexual and reproductive health care, information and education. • Gender budget tracking.	• Track public allocations for gender equality.	• Gender responsive classroom interaction. • Greater social accountability. • Better design and implementation of programmes and policies that support marginalised girls and women.
GOAL 6: Clean Water and Sanitation • Innovation in technology management, including integrated water resource management and treatment, and environmental modelling. • Soil and water resource management practices, including improved methods for rainwater harvesting and irrigation. • Transdisciplinary water security and research. • Research on scarcity of fresh water, particularly in small island states. • Governance to address water management crisis. • Water security. • Sustainable water resource base. • Water infrastructure resilience, water governance and adaptive management. • Water security complexities including competing demands (e.g. human right v. commodification), transboundary management. • Links between water resources, poverty, conflict and the economy. • Understanding of inequalities and complexities involved in water resource access and use, pollution, poverty.	• Use ICT to improve accountability of service providers. • Capacity to set up low-cost and easy-to-manage technology to address groundwater scarcity. • Implement water audits for populations to appreciate their water situation in a conscious way. • Develop financially sustainable models for water projects, using fees and tariff structures that reflect future costs, and manage usage while subsidising water access for the poor. • Innovation in technology and governance for sustainable water management. • Water demand analysis and management, water demand modelling, water distribution systems analysis. • Develop and implement water-related climate change mitigation and adaptation strategies. • Applied research to promote access to clean water and sanitation in resource-poor areas.	• Committed to reducing the ecological footprint by environmentally friendly management of energy, water and other resources, waste management and reducing emissions. • Make professional contributions to societal transformation. • Raise awareness of current water crises. • Reduce water usage and avoid releasing effluent. • Solution-minded approach to sustainable water use and ecosystem health. • Valuing water and sanitation as a human right, and proactive in addressing inequalities and competing uses.
GOAL 7: Affordable and Clean Energy • Complex understanding of the political, social and	• Energy, climate and pro-poor modelling and design.	• Advocate political change for a green economy and

economic dimensions of energy, e.g. conflicting interests, rights of indigenous peoples, etc., and environmental and economic policies. • In-depth research into green economy (e.g. trade opportunities, green investment, improvement models that support pro-poor growth and development, etc.). • Research into sustainable energy development, costs and competition, alternative forms, socio-economic implications, etc.	• Economic and energy research to drive the transition towards a green economy. • Managing and sustaining energy transitions and green trade opportunities. • Research and development of energy sources, infrastructure and technological innovations (e.g. energy system engineering and design, wind mapping/modelling, heat storage). • Engagement with stakeholders to support co-operative change.	participation in development. • Collaborative and proactive approach to change, and need for collective action. • Focus of expanding and advancing technology, infrastructure and affordable access in developing countries. • Motivated to influence cultural shift for sustainable energy adoption and addressing climate change. • Concern for equitable access, and availability of safe and affordable energy solutions.
GOAL 8: Decent Work and Economic Growth • Changing role of technology. • Understanding and matching skills to jobs in a changing environment. • Understanding of the labour market requirements and changing educational expectations. • Principles of business. • Formal and informal labour rights. • Individual/psychological effects of unemployment. • Nature and condition of work. • Impact of current economic decision making on growth of businesses, manufacturing, and availability of decent jobs. • Understanding of how present approaches to the world and national economic planning may undermine the potential of youth/adolescent employment roles and	• Economical use of resources. • Analyse labour markets to increase employment impact. • Research, analyse and interpret examples of inequality. • Critically analyse the root causes and systems of inequality in the labour market and the differentiation of income. • Compare the impact of profit-driven capitalism and conscious capitalism in terms of employment opportunities and the availability of decent work. • Develop labour migration indicators, including wage gap between migrants and nationals. • Develop time-use data (time spent in paid and unpaid work, by gender).	• Global citizenship. • Active citizenship. • Resilience. • Collaborative problem solving and learning. • Sensitivity to geopolitical forces. • Appreciation of the value of hard work. • Recognise that inequality is human made and can therefore be addressed. • Belief in the human ability to solve problems. • Valuing all roles in society. • Responding and acknowledging interconnectedness. • Making ethical choices and taking action to ensure rural women's access, ownership and control of livelihoods. • Women's participation in decision making, governance and management of productive and natural resources

opportunities. • Theoretical assumptions, models and indicators of economic growth (GDP, Gini index). • Structural causes, patriarchal norms, values and practices that do not consider women as individual rights holders, workers and key players for the economic development of countries.	• Identify roots of inequalities in labour. • Capacity to assess risks associated with poverty, exclusion and youth not engaged in the world of work. • Ability to respond to social change.	(land, water, forests, livestock, etc.). • Resilient, successful workforce.
GOAL 9: Industry, Innovation and Infrastructure		
• Research into innovations to contribute to sustainable infrastructure, development, industrial diversification and mitigating harm from pollution and climate change. • The sustainability of transport infrastructure. • Understanding of complex economic, social, political, cultural and historic industrial interrelationships (e.g. power dynamics, pollution outsourcing). • Education for application of science, technology and innovation in sustainable practices. • Development of expertise (e.g. specific economic and infrastructure areas).	• Research, technological improvements and innovations. • Inform economic decision making (e.g. policy development, industrial diversification options). • Promotion of economic, social and environmental arguments for private sector and government to increase research and development, knowledge and technology support. • Incorporation of integrative and long-term thinking/planning. • Research, innovation and ICT application for solutions to sustainable development challenges.	• Campaign for inclusive and sustainable industrialisation. • Encourage technological and financial support across countries. • Support for increased financial and human contributions for research and development. • Engagement with policymakers and industry leaders.
GOAL 10: Reduced Inequality		
• Links between poverty, child development outcomes and widening inequalities. • Financial education including financial services (innovations in savings, insurance, payments and	• Designing, planning, monitoring and evaluation of mechanisms for inequality and data on provision of social services, with regular monitoring of social security coverage.	• Adopt a rights-based approach to inequality and poverty, viewing people who are poor as rights holders with dignity, aspirations, ambition and the potential to shape their own destiny. • Seek to empower girls and women as entrepreneurs, consumers

remittances). • ODA, foreign direct investment and migrant remittances. • Understand the impact of inequalities across income, age, sex, disability, race, ethnicity, origin, religion, and economic or other status.	• Develop strategies to remove structural barriers that may prevent people from exercising rights, to build people's capabilities, and to provide them with the capacity to choose. • Audit global positions of power for representativeness. • Develop more inclusive financial markets and transparent, responsible financial services for all. • Develop innovative uses of ODA (e.g. for strengthening leadership in developing countries in managing the diversity of finance and the mobilisation of domestic resources).	and managers. • Appreciate that remittances are a key source of financing for sustainable development and relevant to economic inclusivity. • Eliminate discriminatory laws, policies and practices. • Empowerment of migrants and respect for their human rights. • Act as a voice for developing countries in decision making in global international economic and financial institutions.
GOAL 11: Sustainable Cities and Communities • Sustainable energy for cities including residential thermal energy research, improving efficiency for schools and use of solar water heating. • Technical environmental science. • Infrastructure and sustainable human settlements including use of green open spaces for urban resilience, spatial planning and infrastructure design. Urban networks, governance system development, climate services for adaptation and mitigation, green and safe transport systems and fresh water supply.	• Incorporate a range of sustainable technologies and techniques that would maintain a growing urban population. • Plan resilient housing (especially in areas that are at risk from flooding) and address carbon emissions mitigation. • Apply innovative urban governance. • Adapt and use existing urban spaces to provide food and employment for inner city areas. • Build urban climate change resilience.	• Preserve unique urban cultures against a backdrop of globalisation and the homogenisation of city life. • Reconnect with, value and restore the natural environment. Appreciate how social norms and pressures (e.g. demographic change) affect spaces and shelter requirements, and commit to providing shelter for everyone. • Develop local responses to local issues. • Tackle social exclusion. • Appreciate and respect the diversity of cultures in urban settings.

GOAL 12: Responsible Consumption and Production		
Waste minimisation methods and technologies, conservation and ecosystem health, ecological footprint reduction. • Eco-audit and EMAS (Eco-Management and Audit Scheme). • Circular economy: remanufacturing, repair, reuse, recycle (including recovery of materials into product design). • Political economy of production and consumption, policies involved, corporate and consumer responsibility. • Dynamics of transition at different scales, resilience and capability, options for greening the developmental phase, technological innovation for sustainable socio-ecological systems, and social learning for sustainability. • Management of shared natural resources, including disposal of toxic waste and pollutants.	• Advanced product design skills to facilitate resource recovery and reuse. • Analyse ecological footprint associated with different products and with consumer choices. • Ability to analyse ecosystem effects and impacts of production and management systems. • Understanding of different scales of decision making or multilevel governance. • Planning and design of corporate social responsibility strategies. • Research into adaptation, innovation and resilience. • Analyse production and consumption practices for sustainable planning.	• Driven to change wider consumption patterns, and address unsustainable consumer choices. • Heightened awareness of responsible consumerism, involving consideration of factors related to the environment (e.g. in development/production of goods, environmental impact/energy efficiency of products/ services). • Appreciation of need to take decisions and co-ordinate resources at the right scale – subsidiarity. • Greening of business and government. • Importance of addressing interconnections between environment, society and economy to produce holistically sustainable systems. • Appreciation of sustainable business models and lifestyles.
GOAL 13: Climate Action		
• Research on governance, participation and social-ecological system change to inform policies on climate change, and the development of institutions for adaptation and mitigation, as well as for systemic integration of climate change. • Research on adaptive and integrated governance systems	• Research to identify innovative and creative approaches to enhance national and regional responses to climate change. • Climate-resilient pathways to development. • Research for strengthened knowledge base and addressing gaps. • Integrated research, and development of holistic	• Proactive engagement, and advocating open and transparent governance. • Climate compatible and responsive development. • Awareness raising; generating interest and

to operate across multiple scales, including co-management and transboundary management arrangements for collective management of natural resources. • Population, urbanisation, migration and conflict. • Climate-resilient pathways. • Expertise, understanding complexities, specialised research (e.g. gender-related vulnerabilities, impact and management of climate-related diseases). • Research on social change and social vulnerability aspects of climate change. • Climate and impact projections. • Research on limits to adaptation and transformational approaches to adaptation. • Understanding of various technological/economic models, including industrial ecology, agroecology, ecological engineering and social enterprise.	approaches to sustainable development. • Cross-scale, integral systems thinking. • Capacity for dealing with complexity (e.g. inequitable impacts). • Climate modelling, scenario building and methodological development for adaptation. • Understanding and assessments of risks, impacts and vulnerability aspects. • Understanding of social, cultural, economic and political dynamics and influences on social practices and society. • Strengthening of climate information and climate services through knowledge and research, including modelling, downscaling and scenario development. • Capacities to access and manage climate finance. • Ability to create linkages between various technologies/economic models.	developing capacity. • Systemic, integrated perspectives on global change and climate-compatible development concerns. • Need for collective action; mobilisation for wider change, greater resilience and improved quality of life. • Climate ethics. • Changes in social practice and habits, which in turn require new values and ethics, learning, social innovation and social learning. • Ethical leadership in decision making. • Appreciation for technologies/economic models in climate change.
GOAL 14: Life Below Water • Detailed knowledge of ocean science including the ocean's role in climate change, and the effect of climate change on the marine ecosystem. • Complex understanding of how to ensure sustainable management of marine natural resources, particularly fisheries, including introduction of marine reserves/locally managed marine areas. • Strategies to conduct financial and natural science, and engineering assessments for marine renewable energy.	• Ability to undertake climate-proofing research, especially in relation to fisheries and water infrastructure. • Ability to develop strategies and techniques to sustainably manage marine natural resources. • Investigate natural resources from the marine environment, including fish; understand the impact of continued fishing on resource availability; gather, analyse and interpret data.	• Commitment to the sustainable management of oceans, seas and marine resources, and marine and coastal ecosystems, and the use of green technology and energy. • Value sustainable production and consumption, and the blue economy model. • Respect and encourage moral, legal and ethical values in ocean governance. • Appreciate the benefits of sustainably managed marine

• In-depth research into technology and innovation for the transfer of marine technology.	• Complex research, development and innovation skills with the ability to produce solutions and proposals with respect to marine renewable energy and technology transfer.	reserves and areas.
GOAL 15: Life on Land		
Interdisciplinary research for sustainable livelihood generation (e.g. focusing on crop varieties resistant to drought). • Sustainable energy and low-carbon development for climate change mitigation. • Understanding of complex dimensions that influence human impact (e.g. political, cultural). Research on resilient landscapes to develop pro-poor, sustainable and productive landscapes (integrated ecological– agricultural systems). • Sustainable energy and low-carbon development for climate change mitigation.	• Advanced research and innovation for sustainable land use. • Incorporation of indigenous knowledge into climate-proofing agriculture and food security. • Documentation of traditional/indigenous knowledge and practices. • Development of sustainable land-use management strategies appropriate to the local context. • Development of low-carbon development strategies, and application of new technologies.	• Co-operation and transfer of best practices and technology. • Commitment to combat ecosystem degradation, and promote sustainable use. • Concern for fair and equitable use of resources. • Motivated to influence decision making, and to support a cultural shift. • Integration of ecosystem and biodiversity value. • Respect for the land and environment. • Keenness to make the transition to low carbon energy for a resilient climate future.
GOAL 16: Peace and Justice Strong Institutions		
• Teacher training in sport, music and arts. • Gender-based violence, rights and gender justice. • Legal education. • Conflict resolution. • Globalisation and impact on migration and mobility. • Convention on the Rights of the Child. • Social protection.	• Co-operation and teamwork • Assessing personal abilities and contributing to a group. • Demonstrate understanding of globalisation in producing diverse forms of labour and dispossessed populations of migrants. • Team building through sports, music and arts. • Ability to promote and support the ending of violence	• Sportsmanship, respect and camaraderie (e.g. shaking hands after matches and competitions). • Gender respect and awareness. • Respect for others' contributions and styles. • Motivated to seek solutions to existing problems in human flows. • Taking part responsibly in activities.

• Environmental law and governance. • Constitutional law. • Legal pluralism. • International human rights law. • Legal principles of climate change.	against children (including trafficking). • Critically reflect on the processes of participation. • Capacity to ensure social cohesion through environmental law and governance, including water policy and water resource governance, as well as governance of rural livelihoods. • Analysis of issues related to climate change, human settlements, migration and land conflicts, and development of solutions.	• Willingness to co-operate in building and safeguarding a fair and democratic society. • Building effective institutions, ensuring responsive and inclusive decision making and public access to information. • Promoting non-discriminatory laws and policies. • Committed to building democratic societies that are just, sustainable, participatory and peaceful. • Increase community participation, foster a sense of belonging among migrants and build social cohesion in the face of growing cultural diversity.
GOAL 17: Partnerships to achieve the Goal		
• Training in sector planning to identify national educational targets for effective development co-operation by both the developing country government and providers of development co-operation. • Training in monitoring and evaluation for senior officials, technical experts, local governments and non-executive stakeholders for review of progress and bottlenecks. • Support interventions and practices that allow knowledge produced in universities to be shared with, and also developed with, communities. • Building collective ownership to encourage participation and shared leadership. • Governance models of partnerships, accountability and stakeholder	• Understanding of ODA, loan agreements, integrated impact assessments (IIAs), Retroactive Terms Adjustment (RTAs), etc. • Mobilising and sharing of knowledge, expertise, technology and financial resources to support the achievement of the SDGs. • Understanding of tax and fiscal burden. • Knowledge that is produced nationally is fed into the community. • Ability to review partnership strategy and structures to seize new opportunities. • Establish and promote a common agenda across	• Committed to the sharing and transfer of knowledge, technology and technological support. • Make available the benefits of new technologies, especially information and communications. • Horizontal cooperation across sectors and actors that is key to achieving the SDGs. • Partnership and engagement for social change practices. • Partnership activities scaled up to maximise impact. • Foster effective partnerships through enabling environments. • Knowledge mobilised, processed, developed and shared. • Appreciate the value of data as a powerful tool to compare

engagement. • Developing a knowledge base for collaboration and trust building among multiple stakeholders.	sectors. • Apply knowledge to policy choices to drive development priorities. • Awareness of bottlenecks to development through peer review and self-assessment.	and learn from partners' experience.

Appendix B

Graduate Profiles

B.1 Graduate Profile: Bachelor of Landscape Architecture

Lincoln University's Bachelor of Landscape Architecture produces highly sought-after graduates who become registered professionals in both the private and public sector, locally and internationally.
Our graduates' strength lies in their multi-disciplinary knowledge and the ability to apply a practical understanding of the relationships between design, planning and management to real world situations.
Graduates are both practical and creative, skilled in expressing critical thinking through design and to problem solve across a range of projects. They have a practical understanding of the relationship between design, planning and management and are committed to landscape sustainability.
The degree ensures graduates are skilled in current software applications, and able to undertake design practice within the context of public policy.
The University's unique core undergraduate courses provide its graduates with exposure to interdisciplinary perspectives on a variety of land-based issues.
Below is a summary of the key knowledge, skills and values a graduate has expected to obtain by the end of the qualification.

Overview

Lincoln University's Bachelor of Landscape Architecture produces highly sought-after graduates who become registered professionals in both the private and public sector, locally and internationally.
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The University's unique core undergraduate courses provides its graduates with exposure to interdisciplinary perspectives on a variety of land-based issues.
Below is a summary of the key knowledge, skills and values a graduate has expected to obtain by the end of the qualification.

Knowledge

1. Explain how environmental, cultural and socio-economic systems and processes shape urban, rural, riparian and montane landscapes at various scales.

2. Describe the landscape dimensions of sustainability, human health and well-being.

3. Describe how different types and historical examples of designed landscape have been created, and of the cultural meanings they express.

4. Describe their design process and evaluate frameworks for design through an awareness of place.

5. Discuss theoretical concepts and applied approaches to Māori and Indigenous Design.

6. Discuss theoretical concepts underlying the practice of landscape architecture.

Skills

1. Apply methods of inventory and analysis, design, assessment and landscape planning.

2. Creatively synthesise landscape related knowledge.

3. Express critical thinking through design.

4. Locate, evaluate and use information from a range of sources to enable evidence-based design.

5. Apply efficient and effective personal time management skills to facilitate design reflection.

6. Use a range of personal attributes including adaptability and an ability to learn and be able to transfer problem solving skills across a range of projects.

7. Communicate effectively in speech, graphics and writing to specific audiences.

8. Engage in effective teamwork through a studio culture, including scoping problems and issues, formulating persuasive arguments, and collaborating in a constructive manner on projects for people and communities.

9. Engage in effective working relationships with a wide range of people and communities.

10. Use basic office applications, including graphic, communication and CAD software, in landscape architectural applications.

11. Undertake design practice within a public policy context and under the statutory and institutional processes for managing landscape change at a range of scales.

12. Use natural and manufactured landscape materials in creative and practical design responses and specify them appropriately to facilitate landscape implementation.

13. Apply a practical understanding of the relationships between design, planning and management.

14. Draft specifications and manage contract administration for project implementation.

Values

1. Appreciate the need to commit to professional ethics, codes of conduct, protocols and procedures, in the context of the nature of professional behaviour.

2. Be open and sensitive to people from a wide range of backgrounds and communities.

3. Appreciate the value of a commitment to landscape sustainability.

B.2 Graduate Profile: Bachelor of Commerce

Graduates of Lincoln University's Bachelor of Commerce degree meet the increasing need for employees who understand the global nature of value chains and the have tools required to make a contribution.

With the skills to research, evaluate and address the challenges facing global businesses using relevant information from reputable sources, graduates are able to make sound decisions based on well informed opinion. They recognise the significance of value chains in connecting the world.

Whether they are employed in supply chain management, marketing, food and resource economics, IT or accounting and finance, Bachelor of Commerce graduates are well qualified to play a role in linking local strategies and operations to the global economy and capture a competitive advantage.

The University's unique core undergraduate courses provides its graduates with exposure to interdisciplinary perspectives on a variety of land-based issues.

Below is a summary of the key knowledge, skills and values a graduate has expected to obtain by the end of the qualification.

Overview

Graduates of Lincoln University's Bachelor of Commerce degree meet the increasing need for employees who understand the global nature of value chains and the have tools required to make a contribution.

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The University's unique core undergraduate courses provides its graduates with exposure to interdisciplinary perspectives on a variety of land-based issues.

Below is a summary of the key knowledge, skills and values a graduate has expected to obtain by the end of the qualification.

Knowledge

1. Understand the importance of GVCs & the contributions made by various commerce disciplines in creating value and sustaining superior performance.

Skills

1. Have the skills to investigate and learn new concepts throughout their working lives.
2. Be able to evaluate & attack the most important challenges facing global businesses.
3. Find & use relevant information, from a variety of reputable sources, and synthesize this information in order to make sound decisions.
4. Be self-reliant and capable of forming opinions that they can believe in, defend with logic and integrity, and gain support for.

Values

1. Identify the impact of business decisions on stakeholders, including the environment and society.

B.3 Graduate Profile: Bachelor of Agriculture

Graduates of Lincoln's Bachelor of Agriculture have a combination of knowledge, skills and real world practical experience that enables them to immediately make a contribution in any of the many different jobs they find themselves in across all areas of agricultural production and related industries.
They graduate with a sound understanding of the principles underlying science research and the fundamentals of agricultural production, together with the ability to take existing knowledge and apply it to solving new problems.
The values of social responsibility, cultural awareness and commitment to research and scientific knowledge underpin their critical thinking and decision making skills. Graduates understand the importance of co-operation, facilitation and ongoing learning within the agricultural sector and beyond.
Their global perspective of social and political aspects of agriculture give them insight into New Zealand's contribution to the international community, and the impact of that community on New Zealand.
The University's unique core undergraduate courses provides its graduates with exposure to interdisciplinary perspectives on a variety of land-based issues.
Below is a summary of the key knowledge, skills and values a graduate has expected to obtain by the end of the qualification.

Overview

Graduates of Lincoln's Bachelor of Agriculture have a combination of knowledge, skills and real world practical experience that enables them to immediately make a contribution in any of the many different jobs they find themselves in across all areas of agricultural production and related industries.
They graduate with a sound understanding of the principles underlying science research and the fundamentals of agricultural production, together with the ability to take existing knowledge and apply it to solving new problems.
The values of social responsibility, cultural awareness and commitment to research and scientific knowledge underpin their critical thinking and decision making skills. Graduates understand the importance of co-operation, facilitation and ongoing learning within the agricultural sector and beyond.
Their global perspective of social and political aspects of agriculture give them insight into New Zealand's contribution to the international community, and the impact of that community on New Zealand.
The University's unique core undergraduate courses provides its graduates with exposure to interdisciplinary perspectives on a variety of land-based issues.
Below is a summary of the key knowledge, skills and values a graduate has expected to obtain by the end of the qualification.

Knowledge

1. Describe the philosophical, scientific and ethical principles underlying science research.
2. Describe the fundamental areas of agriculture and agricultural production.

Skills

1. Extrapolate from knowledge and principles to solve new problems.

2. Locate, evaluate and use information in a range of contexts.

3. Recognise personal limitations of knowledge about agriculture and agricultural science and to seek help when these limitations are met.

4. Effectively and efficiently organise and manage time and resources.

5. Recognise personal needs for health and identify appropriate support or healthcare.

6. Practice critical thinking by weighing, evaluating and integrating new information.

7. Manage uncertainty in scientific interpretation and decision-making and their application to agriculture.

8. Solve problems and design experiments.

9. Facilitate the learning experience of individuals, groups and communities, both within and beyond agriculture.

10. Co-operate and communicate with colleagues, groups and communities, within and beyond the agriculture sector.

Values

1. Develop a commitment to the interdependence of research and scientific knowledge in agriculture.

2. Develop a commitment to behaving in an ethical manner.

3. Develop social responsibility through understanding that agriculture and food production contributes to human welfare.

4. Appreciate the global perspective of agriculture, and the impact of the international community on New Zealand and New Zealand's contribution to the international community at a social and political level.

5. Show familiarity with and an awareness of cultural issues, Māori and Pakeha perspectives and their implications for land use and land management.

6. Maintain proper boundaries between personal and professional roles.

Appendix C

Core Course Outline

C1 Bachelor of Landscape Architecture

- DESN 101: Digital tools for Designs
- DESN 102: Introduction to 3D Design
- DESN 103: Visual Communication
- DESN 104: History of Design and Culture
- ENGN 106: Land Surfaces, Water and Structures
- PHSC 107: Introduction to Earth and Ecological Sciences

C2 Bachelor of Commerce

- BMGT 116: Principles of Management
- COMM 111: Introductory Statistics
- COMM 112: Financial Information for Business
- ECON 113: Economies and Markets
- LWST 114: Introduction to Commercial Law
- MKTG 115: Principles of Marketing

C3 Bachelor of Agriculture

- AGRI 393: Agricultural Practicum
- ANSC 105: Animal Science
- ANSC 213: Livestock Production Science
- LINC 101: Land People and Economies
- MGMT 103: Primary Industries Systems
- MGMT 201: Principles of Farm Management
- MGMT 203: Agricultural System and Sustainability
- PHSC 101: Chemistry 1A
- PLSC 104: Plant Science 1
- PLSC 204: Plant Production System
- QMET 201: Biometrics
- SOSC 224: Soil Management

C.1 Bachelor of Landscape Architecture Core Courses

Updated 25.03.2020 in response to the suspension of teaching due to COVID 19

School of Landscape Architecture
Faculty of Environment, Society and Design

DESN 101: Digital tools for Design

Block 2 Semester 1, 2020.

Examiner **Name: Don Royds**
Room: G28
Building: School of Landscape Architecture
Extn: 4230463
Email: Donald.royds@lincoln.ac.nzx

Tutors Marcus Robinson: Marcus.Robinson@lincoln.ac.nz
Yuqing He
Suphicha Muangsri

Guest Lecturer Crile Doscher

Course Prescription	Introduction to a range of software applications used in design, including CAD, GIS, graphics and image editing.
Prerequisites	None
Recommended Preparation	None
Restrictions	LASC111

Course Aims and Learning Outcomes

Aims

To introduce students to a range of digital techniques which are of particular value in design, with an emphasis on the role of these applications as design tools.

Learning outcomes
After successfully completing this course students will be able to:

Knowledge
K1. Understand the range of software applications commonly used in design.
K2. Understand the processes and techniques involved in the efficient use of a range of software, including graphics, image editing, 2D and 3D CAD, and GIS.
K3. Discuss the specific issues raised by a digital design office and how those issues could be managed.

Skills
S1. Apply a range of digital techniques to design applications
S2. Apply efficient and effective personal time management.
S3. Communicate effectively in speech, graphics and writing to specific audiences, across a range of media.
S4. Use basic office applications, including graphic, communication and CAD software, in landscape architectural applications.

Values
V1. Recognise the value of digital techniques to design.

Contribution to the degree programme:

The ability to use design, representation and presentation software is an essential skill for landscape architects and others interested in design. This course develops these skills by teaching the use of software for raster image editing, digital mapping, the preparation of presentation graphics, 2D and 3D computer aided design.

Subject's links to research/professional practice:

The types of software covered in each module are widely used worldwide. The staff teaching into this course have professional experience in the use of this software.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable. Note that this course uses a range of blocks to suit the BLA first year studio timetable. If students from other degrees have conflicts with the lab times, they should discuss them with the Examiner

Teaching Programme 2020

	Week begins	***Lecture Slot (D6)*** *Monday 10 – 11 am*	***Lab 1 (D3 – D4)*** *Tuesday 10am – 11am*	***Lab 2 (D3 – D4)*** *Thursday 10am – 11am*	***Lab 3 (D3 – D4)*** *Friday 10am – 12 pm*
1	17 Feb	17th February Course Intro **Project 1** intro (DR, MR)	18th February InDesign Basics (DR, MR)	20th February InDesign Basics (DR, MR)	21st February Project Work (DR, SM, YH)
2	24 Feb	24th February "Geographic Information Systems - GIS" (CD)	25th February ArcGIS Basics (DR, SM, YH)	27th February ArcGIS Basics (DR, SM, YH)	28th February ***Field Trip Day*** NO CLASS
3	2 Mar	2nd March "Working with digital tools" **Project 2** Introduction (MR)	3rd March SketchUp (MR, SM, YH) **P1: due 8:30 am**	5th March SketchUp (MR, SM, YH)	6th March Project Work (MR, SM, YH)
4	9 Mar	9th March "Working with digital resources" (DR)	10th March SketchUp (MR, SM, YH)	12th March ***Field Trip Day*** VERTICAL STUDIO	13th March Project Work (MR, SM, YH)
5	16 Mar	16th March "Working with digital tools" (4th Year Students)	17th March Photoshop Basics (MR, SM, YH)	19th March Photoshop Basics (MR, SM, YH)	20th March Project Work (MR, SM, YH)
		BREAK: 23 March – 17 April			
6	20 April	20th April **Project 3** introduction (DR)	21st April ***Field Trip Day*** NO CLASS	23rd April AutoCAD Basics	24th April VW Introduction + NO ONLINE MEETINGS
7	27 April	27th April ***ANZAC Day*** NO CLASS	28th April VW Basics	30th April VW Basics	1st May VW Basics + ONLINE MEETINGS
8	4 May	4th May "Digital tools for design" (DR)	5th May VW Basics	7th May VW Basics	8th May VW Basics + ONLINE MEETINGS
9	11 May	11th May ***Field Trip Day*** NO CLASS	12th May VW Basics	14th May VW Basics	15th May VW Basics + ONLINE MEETINGS
10	18 May	18th May "Where to next?" (DR)	19th May VW Basics	21st May VW Basics	22nd May VW Basics + ONLINE MEETINGS
11	25 May	25th May **Project 4** introduction (MR)	26th May InDesign refresher	28th May Lumion Introduction	29th May Lumion + ONLINE MEETINGS
12	1 June	1st June ***QUEEN'S BIRTHDAY*** NO CLASS	2nd June Lumion	4th June Lumion	5th June Final thoughts + ONLINE MEETINGS

The following programmes are taught in this course.
Vectorworks 2020
Adobe Photoshop CS6
Adobe InDesign CS6
Lumion 9.0
SketchUp Make 2017
ArcMap 10.6

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including lectures, workshops, self-study material, interactive on-line material, group work, and office hours. Students are strongly advised to make full use of all available learning opportunities.

Online Learning Activities

Lectures

Day	*Time*
Monday	**10.00 – 10.50 am**

Recorded tutorials

Day	*Time*
Tuesday	**10.00 – 10.50 am**
Thursday	**10.00 – 10.50 am**
Friday	**10.00 – 10.50 am**

Online meeting with tutor

Day	*Time*
Friday	**15 minute duration**

Online Learning Activities

Students in this course will be able to access the course *Learn* site via http://learn.lincoln.ac.nz, the course web site will be a repository for digital copies of lectures, design exemplars and other resource material

Lecture Notes

Lecture notes will be posted on LEARN. It is important to note that the images shown in lectures will not all be available in the PDFs of the notes, as copyright regulations prevent this. Some readings will be placed on the relevant LEARN site.

Examples and Inspiration.

Students are advised to browse through the various books and magazines in the library that relate to computer applications in resource planning and design. This is strongly recommended for those with little graphic knowledge/background.

Extra Tutorials.

For those of you who feel like you are falling behind, or perhaps need a little more extension, there are many resources that can help you on the internet. Listed below are a few recommended sites.

GENERAL: www.youtube.com. ADOBE: www.tv.adobe.com. AUTOCAD: http://help.autodesk.com/view/ACD/2016/ENU/ SKETCHUP: http://www.sketchup.com/learn
Textbooks and other resources: Students are advised to browse through the various books and magazines in the library that relate to computer applications in design.
Teaching on Field Trip Days Unless students are advised to the contrary, lectures, presentations and all other aspects of the course ***will not*** continue to be held on field trip days. Alternative arrangements will be made for non-BLA students if teaching is held on a field trip day and those students are unable to attend those classes. Please advise the examiner as soon as you are aware of such a field trip.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment Due date	Weighting %		Learning outcomes	Key resources
Project 1: Design Study *(Site Analysis / Base Information)* ArcGIS, InDesign	~~8:30 am Tuesday 3rd March~~ **8:30 am Friday 29th May**	15%	K1,K2,S1,S2,S3, V1	Lectures, labs and independent learning.
Project 2: Conceptualising *(Forming / Digital Exploration)* SketchUp, Photoshop	~~8:30 am Thursday 26th March~~ **8:30 am Thursday 23rd April**	25%	K1,K2,S1,S2,S3,V1	Lectures, labs and independent learning.
Project 3: Landscape Modelling *(Design model creation)* Vectorworks	~~8:30 am Tuesday 19th May~~ **8:30 am Tuesday 26th May**	35%	K1,K2,K3,S1,S2,S3, V1	Lectures, labs and independent learning.
Project 4: Visualisation *(Presentation Graphics)* InDesign, Lumion	~~8:30 am Tuesday 2nd June~~ **8:30 am Tuesday 9th June**	25%	K1,K2,K3,S1,S2,S3, V1	Lectures, labs and independent learning.

Returning work

The School policy is to return tests and project work to students within two weeks of hand in where possible but certainly within three weeks of hand in.

Penalties and mandatory course requirements

1. Penalty for late submission

In the interests of fairness and transparency, work that is submitted late, without an approved aegrotat, will have the following marks deducted:

a) if the work is submitted up to 24 hrs (1 day) late **the mark will be reduced by one grade (e.g. A- to B+)**

b) if the work is submitted up to 48 hrs (2 days) late **the mark will be reduced by two grades (e.g. A- to B)**

c) if the work is submitted up to 72 hrs (3 days) late **the mark will be reduced by three grades (e.g. A- to B-)**

d) if the work is submitted up to 96 hrs (4 days) late **the mark will be reduced by four grades (e.g. A- to C+)**

e) if the work is submitted up to 120 hrs (5 days) late **the mark will be reduced by five grades (e.g. A- to C)**

Work that is submitted more than 120 hours late (five days including weekends and public holidays) after the required submission date/time **will not be assessed** and will not receive any marks.

To ensure that late work is not lost and that penalties are delivered consistently, all late work for any course must be placed into the specially marked box (the "late box") beside the lift on the studio level. If an examiner receives work via some other avenue (e.g. if it appears in their mailbox) then the penalty for lateness will be awarded based on the time the examiner picks up the work regardless of when the work was submitted late. Examiners are not responsible for lost work when it is not handed in via the late box. The late penalty associated with work collected from the late box will be calculated at the time of daily pick up.

Both digital and paper submissions must be submitted at the due date. If a paper submission is submitted later, late submission penalties apply based on the date/time of the late box clearance. If a student provides evidence that the paper copy was submitted later due to printing or other technical problems, the examiner may decide to waive the penalty. The student needs to present evidence for the technical problem (e.g. from Lincoln University ITHelp). **Incomplete submissions that do not include both digital and paper submissions will not be assessed.**

2. Mandatory requirements

There are no mandatory projects in this course but you are strongly advised to complete and submit all project work to maximise your learning, and improve your chances of gaining a good grade.

Aegrotat process

All aegrotat applications for project work will be given to the landscape administrator who will assess the level of impairment in association with the student, and the examiner where appropriate. The administrator will then inform the student of the outcome of their application, and will advise the examiner about the implications of this decision for project work.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations and Policies* http://learn.lincoln.ac.nz/pluginfile.php/8614/block_html/content/Universal_Course_Regulations.pdf

The University reserves the right to request further information, working drawings, or other material from a student in order to confirm the originality of the work submitted.

3. Dishonest or Improper Academic Practice

***3.1 No dishonest intent*[1]**

a) Plagiarism[2]

Plagiarism without dishonest intent might occur when students fail to reference correctly (e.g. putting a verbatim citation in between quotation marks ("…"), but forgetting to add an in-text reference after the sentence, or forgetting to put a reference underneath images (e.g. copied from the internet).

For each different occurrence of plagiarism without dishonest intent the mark will be reduced by one grade (e.g. A- to B+).

Example: If a student failed to reference verbatim citations AND added images without references, **the mark will be reduced by two grades (e.g. A- to B).**

There is a thin line between no dishonest and dishonest intent. The will decide if a student acted out of carelessness or dishonesty. Dishonest conduct, for example, may have occurred if a student copies

[1] Definitions of 'dishonest intent' are outlined in Lincoln University's "Procedures for Dishonest and Improper Academic Practice" (October 2017)

[2] More information on plagiarism are found in the "The SOLA short guide to plagiarism (and how to avoid it)"

entire passages from a text without quotation marks and references, or if he/she only changes a few words within a copied sentence.

If a work shows severe and repeated signs of non-intentional plagiarism, the examiner may ask for a resubmission or apply the above mark penalties. In case of a resubmission, the above mark penalties will be applied based on the date of final acceptable (non-plagiarised) hand in. If the student fails to resubmit within a given amount of time without an aegrotat, the work will receive a Fail (F) grade.

b) Different digital/Paper versions

If students submit different versions for an acceptable reason, e.g. due to technical problems or by accident, **they need to let the examiner know upon hand in of the hard copy**. The examiner will grade the hard copy with consideration of the digital copy if appropriate. If the student submits different versions without an acceptable reason whether they let the examiner know or not, the examiner will decide if a student acted out of dishonesty. The examiner may apply late submission penalties based on the date/time of the paper copy submission and/or refer the case to the proctor.

3.2 Possible dishonest intent

In the case of severe (intentional) forms of plagiarism or other forms of dishonest or improper academic behaviour including submitting different versions (digital/paper) without letting the examiner know, LU policy procedures "Procedures for Dishonest and Improper Academic Practice" (Oct. 2017) under Level 2 "Other Assessment Offence" should be followed.

3.3 Appeals

In accordance with Lincoln University "Procedures for Dishonest and Improper Academic Practice" (October 2017), the examiner "will advise the student of their right to appeal to the Faculty Dean or Division Director (or their nominated deputy). The appeal must be in writing, stating the reason for the appeal and be submitted within five working days of notification" (p.2).

Office Hours and Feedback Opportunities

Email the examiner for an appointment if you would like to have a chat about the course, or speak to the class rep who will discuss matters with the examiner on your behalf.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester; contact information for staff is provided at the top of this course outline. Students may give feedback in any format they feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the examiner to improve the course. There will be an opportunity to formally evaluate the course at the end of the semester.

Guest lecturers

Professionals from landscape architectural or building architectural practice will provide guest tutorials at the interim presentations. These tutorials are dependent upon availability of external individuals and may be affected by external circumstances.

Course Requirements

Attendance policy:

Active participation, including lectures and discussion groups, is an essential component of the course. In many cases information essential to a required project is distributed or discussed at the beginning of class. Students who miss or who are late for class **will lose marks** in the project to which the teaching activity relates, unless they have an approved aegrotat. An attendance record of sign-up sheets may be kept, and students who miss, or who are late for, more than two teaching sessions during the semester without an approved aegrotat **will have their final grade reduced.**

Class time specified in the course outline will be devoted to scheduled projects only, and **no other work** will be permitted during that time unless specifically approved by the examiner. Full attendance, full attention, and full effort is thus required, in order to gain the most from this course.

Copyright

There is a shared copyright agreement that relates to student projects; all BLA and MLA students are required to read and complete this agreement at the commencement of their programme. See the landscape administrator for completion of these forms.

SoLA Vertical Studio

All Landscape Architecture students are required to attend the SoLA Vertical Studio. Further details, including date and time, will be provided closer to the studio.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Lectures	11 hours
Labs	44 hours
Non-contact Hours	
Individual project work	92 hours
Site Analysis / Site Visit	3 hours
Total Student Workload	**150**

Student Help and Support

Learning, Teaching and Library

The Academic and Career Skills team in Learning, Teaching and Library offers free programmes and resources that can help you to succeed in your studies and career planning. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, employment, and mathematics / statistics skills. They can also support students who are faced with the challenges of a disability, illness or injury, whether this is short term or long term. To find out more, log into the website at http://ltl.lincoln.ac.nz.

While there is no face-to-face learning and teaching on campus, the learning advisors are available 'on line'.

For 'quick questions', use AskLive (Monday to Friday 9am to 4pm) or contact us after hours. (AskLive is at http://ltl.lincoln.ac.nz.)
For more in-depth advice, book an appointment. Appointments are offered via video conferencing, telephone or email. (Bookings at https://ltl.lincoln.ac.nz/advice/study-skills/appointments/)
For on-line workshops, see http://ltl.lincoln.ac.nz for current information.

Once face-to-face learning and teaching recommences, you can visit the team in Ivey Hall. There will be

regular drop in sessions, during which you can ask 'quick questions', as well as bookable appointments and workshops.

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. A student rep or reps will be elected for your year and introduced to the class in the first week of the semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

School of Landscape Architecture
Faculty of Environment, Society and Design

DESN102: INTRODUCTION TO 3D DESIGN
Semester two, Block 5, 2019

Examiner Nada Toueir
Email: nada.toueir@lincoln.ac.nz

Tutors Marcus Robinson marcus.robinson@lincoln.ac.nz
Wendy Hoddinott wendyhoddinottla@gmail.com
Yuqing He Yuqing.He@lincolnuni.ac.nz

Course Prescription	An introduction to 3D design and problem solving, including skills in creative and lateral thinking.
Prerequisites	None

Course Aims and Learning Outcomes

Aims

To develop, at an introductory level, the analytical, creative and representational skills essential for 3D design.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1. Describe a range of approaches to document 3D design ideas
K2. Discuss techniques to facilitate design thinking

Skills

S1. Apply creative and lateral thinking skills to solve 3D design problems
S2. Apply creative methods of observation, inventory, analysis and design.
S3. Apply introductory design theories in simple settings
S4. Communicate effectively in speech, graphics and writing to specific audiences, across a range of media.

Values

V1. Appreciate the importance of ensuring the accurate communication of design ideas.
V2. Recognise the importance of understanding and visualising the sequence of space in 3D.

Contributions of this course to the graduate profile

The learning outcomes for this course contribute to the overall attributes expressed in the BLA programme graduate profile.

Contribution to the BLA programme:

The course highlights a range of creative approaches to design, introduces the role of analysis within a design process, and develops student creativity through a range of design projects.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week		*Week begins*	*Lecture Slot (In studio)* *Monday 1:10 – 2:00 pm* ***Studio 1 (1st Year Studio)*** *Monday 3:10-5:00*	***Studio 2 (1st Year Studio)*** *Tuesday 1:10 – 2:00 pm*	***Studio 3 (1st Year Studio)*** *Thursday 1:10 – 2:00 pm*
1	INTRO	15 July	15 July Course Introduction **P4 introduction** (NT, MR, YH)	16 July Sketching (NT, YH)	18 July **Project 1 introduction** Sketching (NT, MR)
2	PROJECT 1	22 July	22 July **Project 1 Site Visit** (NT, MR)	23 July Project work (NT, YH)	25 July Project work (NT)
3		29 July	29 July Project work (NT)	30 July Project work (NT, YH)	1 August Project work (NT)
4		05 August	5 August – Field Trip Day No class	6 August Project work (NT, YH)	8 August **Pin-up P1 + Hand-In** **P2 introduction** (NT, MR)
5	2 PROJECT	12 August	12 August Project work and research (NT, MR)	13 August Project work (NT, YH)	15 August Project work (NT)
6		19 August	19 August Project work (NT)	20 August – Field Trip Day No class	22 August **Interim Pin-up** and progress review before the break. (NT, MR)
			BREAK: 26 August – 6 September		
7	PROJECT 2	09 Sept.	9 September Project work (MR, YH)	10 September Project work (MR, YH)	12 September Project work (MR, YH)
8		16	16 September (MR, NT)	17 September (NT, YH)	19 September (MR, NT, WH)
9	3 PROJECT	23 Sept.	23 September **Project 3 introduction and Site Visit** (WH, NT)	24 September Project work (NT, YH)	26 September Project work (WH)
10		30 Sept.	30 September Project work (WH)	1 October Project work (NT, YH)	3 October – Field Trip Day No class
11		7 Oct.	7 October **Project 4 start** and Project work (WH, NT)	8 October Project work (NT, YH)	10 October **Pin-up P3 + Hand-In** (WH, NT)
12	4 PROJECT	14Oct.	14 October Project work (WH)	15 October Project work (NT, YH)	17 October Project work (WH) **P4 is due on Monday 21st October at 8:30am**

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including lectures, workshops, self-study material, interactive on-line material, group work, and office hours. Students are strongly advised to make full use of all available learning opportunities
A combination of lectures, field trip and studio-based teaching.

Face-to-face Learning Activities

Lectures

Day	*Time*	*Room*
Monday	1:10 – 2:00pm	Studio

Studio times

Day	*Time*	*Room*
Monday	3:10 – 5:00 pm	Studio
Tuesday	1:10 – 2:00 pm	Studio
Thursday	1:10 – 2:00 pm	Studio

Field Trip

Day	*Time*
Monday 22nd July	1:00 – 5:00
Monday 23rd September	1:00 – 5:00

Note: Talk to the examiner if there are any course clashes with field trip days

Online Learning Activities Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz. Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.
Other learning activities Readings will be suggested for each project. It is imperative to back up your studio experience with readings.
Lecture Notes Lecture notes will be posted on LEARN. It is important to note that the images shown in lectures will not all be available in the PDFs of the notes, as copyright regulations prevent this. Some readings will be placed on the relevant LEARN site. Camtasia recordings will be made where possible and also placed on LEARN.
Students are encouraged to register at www.beloose.com for additional graphics tips and tricks from world-renowned graphics guru Mike Lin.
Equipment We will use models as tools to explore 3D design throughout this course. These will vary from rough working models, to finished presentation models. You will therefore need to purchase and/or gather materials for these models; more detail will be provided closer to the actual studio project involved. See the list at the end of this outline for basic materials that you are likely to need for this course.

Assessment

Formal assessment items

This course is 100% internally assessed; there will be no final examination. Dates are unlikely to change, but may if an unexpected learning opportunity arises. Note that each of the following projects requires a research or theory component to underpin your design responses…

Assessment	Due date	Weighting %	Learning outcomes covered	Key resources
Project 1: Abstraction *(Analyzing and understanding a space through abstract forms)*	**Thursday 8th August**	20%	K1, K2, S1, S2, S4	Lectures, reading and studio tutors
Project 2: From Painting to Model Making *(Materiality, analysis, documentation, and abstraction)*	**Thursday 19th September**	40%	K1, S1, S2,S3, S4	Lectures, reading and studio tutors
Project 3: Storytelling *(Spatial analysis, visual communication)*	**Thursday 10th October**	20%	K1, K2, S1, S2, V1, V2	Lectures, reading and studio tutors
Project 4: Portfolio *(Synthesis, visual and graphic communication)*	**Monday 21st October**	20%	K1, S3, S4, V1	Lectures, reading and studio tutors

Both digital and paper submissions must be submitted at the due date for projects 1, 2, and 3. Project 4 will only be submitted on LEARN (refer to brief for more details).

If a paper submission is submitted later, late submission penalties apply based on the date/time of the late box clearance. If a student provides evidence that the paper copy was submitted later due to printing or other technical problems, the examiner may decide to waive the penalty. The student needs to present evidence for the technical problem (e.g. from Lincoln University ITHelp). **Incomplete submissions will not be assessed.**

Returning of work

The School policy is to return tests and project work to students within two weeks of hand-in where possible but certainly within three weeks of hand-in.

Course Requirements

Studio participation:

Active participation in studio, including critiques, presentations, lectures and discussion groups is an essential component of the course. In many cases information essential to a required project is distributed or discussed at the beginning of class. Students who miss or who are late for studio **may lose marks** in the project to which the teaching activity relates, unless they have an acceptable reason. An attendance record through sign-up sheets may be kept, and students who miss, or who are late for, more than two studio sessions during the semester without an approved aegrotat **will have their final grade reduced.** Full attendance, full attention, and full effort is thus required, in order to gain the most from this course.

Studio time specified in the course outline will be devoted to scheduled projects only, and **no other work** will be permitted during studio hours unless specifically approved by a studio tutor.

Workbook:

All students are **encouraged** to keep and organise their weekly thoughts and observations, critique notes, tutorial comments and sketches, for further reflection and consideration. It is suggested that a studio workbook (A4 or A5 is a good size) is the simplest way to meet that requirement; it must be brought for that purpose to every studio session. There should be at least one entry for each week of the semester as a record of your thoughts, processes and progress.

Professionalism:

The BLA is a professional programme. Everything that you work on during your time here should be completed with that thought in mind. This means adopting a professional 'office environment' approach to your studio space, being on time for lectures and studios, affording visitors your courteous attention, and making sure that there are no spelling errors in work submitted for assessment. Most software has a spell check programme, so please use that; or have your work proof-read by a colleague or friend; or work with LTL on ensuring the accuracy of any written work.

Compulsory Course Requirements

The following assessment items are compulsory. Failure to submit these items will result in the student not being eligible to achieve a passing grade in this course.

All project work must be submitted for assessment to be eligible to claim credit for this course. Please note that if **any** projects are not submitted, the grade for the course will be F (fail). The studio workbook must also be handed in for review at the end of the semester; marks will be deducted from your final grade if this requirement is not met.

There will be a compulsory pin ups after each project, it's a great opportunity to see each other's work and learn from others.

We will have two compulsory field trips to the city and will be back to campus at our normal studio finish time. Please make whatever arrangements you need to as soon as you can, so that you can attend this trip. Attendance at the field trip is compulsory.

Late Submission of Assessment

Unless alternative arrangements have beenmade with the Examiner, items of assessment that are submitted after the due date and time will forbe awarded a mark of zero. University regulations apply the final examination.

SOLA PENALTIES

1. Late submission

In the interests of fairness and transparency, work that is submitted late, without an approved aegrotat, will have the following marks deducted:

) if the work is submitted up to 24 hours (1 day) late **the mark will be reduced by one grade (e.g. A- to B+)**
) if the work is submitted up to 48 hours (2 days) late **the mark will be reduced by two grades (e.g. A- to B)**
) if the work is submitted up to 72 hours (3 days) late **the mark will be reduced by three grades (e.g. A- to B-)**
) if the work is submitted up to 96 hours (4 days) late **the mark will be reduced by four grades (e.g. A- to C+)**
) if the work is submitted up to 120 hours (5 days) late **the mark will be reduced by five grades (e.g. A- to C)**

Work that is submitted more than 120 hours late (five days including weekends and public holidays) after the required submission date/time **will not be assessed**, and will not receive any marks.

To ensure that late work is not lost and that penalties are delivered consistently, all late work for any course must be placed into the specially marked box (the "late box") beside the lift on the studio level. If an examiner receives work via some other avenue (e.g. if it appears in their mailbox) then the penalty for lateness will be awarded based on the time the examiner picks up the work regardless of when the work was submitted late. Examiners are not responsible for lost work when it is not handed in via the late box. The late penalty associated with work collected from the late box will be calculated at the time of daily pick up.

Aegrotat process

All aegrotat applications for project work must be given to the landscape administrator who will assess the level of impairment in association with the student, and the examiner where appropriate. Our administrator will then inform the student of the outcome of their application, and will advise the examiner about the implications of this decision for project work timelines.

An aegrotat exemption or concession cannot be given for studio work; an aegrotat can only be used to allow an extension of time in studio classes. It is therefore essential that you seek an aegrotat **as soon as you are aware** that illness, accident or family circumstances prevent you from completing a project on time. In certain circumstances a project's due date may be extended beyond the end of the semester to ensure that students are not penalised through undue pressure of work.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations and Policies* http://learn.lincoln.ac.nz/pluginfile.php/8614/block_html/content/Universal_Course_Regulations.pdf

The University reserves the right to request further information, working drawings, or other material from a student in order to confirm the originality of the work submitted.

2. Dishonest or Improper Academic Practice

2.1 No dishonest intent[1]

a) Plagiarism[2]

Plagiarism without dishonest intent might occur when students fail to reference correctly (e.g. putting a verbatim citation in between quotation marks ("…"), but forgetting to add an in-text reference after the sentence, or forgetting to put a reference underneath images (e.g. copied from the internet).

For each different occurrence of plagiarism without dishonest intent the mark will be reduced by one grade (e.g. A- to B+).

Example: If a student failed to reference verbatim citations AND added images without references, **the mark will be reduced by two grades (e.g. A- to B).**

There is a thin line between no dishonest and dishonest intent. The will decide if a student acted out of carelessness or dishonesty. Dishonest conduct, for example, may have occurred if a student copies entire passages from a text without quotation marks and references, or if he/she only changes a few words within a copied sentence.

If a work shows severe and repeated signs of non-intentional plagiarism, the examiner may ask for a resubmission or apply the above mark penalties. In case of a resubmission, the above mark penalties will be applied based on the date of final acceptable (non-plagiarised) hand in. If the student fails to resubmit within a given amount of time without an aegrotat, the work will receive a Fail (F) grade.

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b) Different digital/Paper versions

If students submit different versions for an acceptable reason, e.g. due to technical problems or by accident, **they need to let the examiner know upon hand in of the hard copy**. The examiner will grade the hard copy with consideration of the digital copy if appropriate. If the student submits different versions without an acceptable reason whether they let the examiner know or not, the examiner will decide if a student acted out of dishonesty. The examiner may apply late submission penalties based on the date/time of the paper copy submission and/or refer the case to the proctor.

2.2 Possible dishonest intent

In the case of severe (intentional) forms of plagiarism or other forms of dishonest or improper academic behaviour including submitting different versions (digital/paper) without letting the examiner know, LU policy procedures "Procedures for Dishonest and Improper Academic Practice" (Oct. 2017) under Level 2 "Other Assessment Offence" should be followed.

2.3 Appeals

In accordance with Lincoln University "Procedures for Dishonest and Improper Academic Practice" (October 2017), the examiner "will advise the student of their right to appeal to the Faculty Dean or Division Director (or their nominated deputy). The appeal must be in writing, stating the reason for the appeal and be submitted within five working days of notification" (p.2).

Office Hours and Feedback Opportunities

Office Hours

Available by appointment; feel free to email and make a time.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format with which they feel comfortable (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Health and Safety off-campus

Field Trips: full details will be provided separately. Refer to the Code of Conduct for Trips, Tours and other External Activities:
http://learn.lincoln.ac.nz/pluginfile.php/8614/block_html/content/Code_of_Conduct_Field_Trips.pdf

As with all studio courses, you will need to visit project sites from time to time. Site visits undertaken in association with a studio project are not official field trips or tours. Any visits you undertake, even in the company of other students or staff, are your personal responsibility. You must satisfy yourself that your travel arrangements and any actions that you take to and from the site visit, and during the visit itself, are legal and safe. Enrolment in DESN 102 requires that you accept this personal responsibility. Please contact the examiner if any aspect of this policy is unclear, or you seek clarification of any aspect.

All students must complete a health and safety form before going on any field trip or tour. This needs to be completed only once during your degree. But it is **your responsibility** to check that all details are up to date including medical and next of kin details. See our School Administrator to check your details.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 / 200 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact (lectures and tutorials) Field trip.	50 6
Non-contact Hours	
Self-directed learning, e.g. study, projects.	94
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Academic and Career Skills team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies, career planning and job searching. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, employment and mathematics / statistics skills.

To find out more, log into the website at http://ltl.lincoln.ac.nz or visit Library Teaching and Learning in Ivey Hall. For in-depth questions, book an appointment (via the website) or come to one of our daily "drop ins" - Monday to Friday 10.30-11.30am.

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. A student rep or reps will be elected for your year and introduced to the class in the first week of the semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

First year studio materials list

The following materials will be required during studio projects undertaken in the first year. You may already have many of these items from semester one. The suppliers named below have a wide range of gear if you need to purchase these items or refresh your supplies, but there are many other stationery outlets who may also have many of the items.

The Linc (The University Bookshop); ground floor Forbes building.
Gordon Harris; 163 Madras Street, www.gordonharris.co.nz
The Drawing Room; 500 Colombo Street, www.thedrawingroom.co.nz

- You should note that student discounts (individual or group) may apply at these outlets.

Since there is a wide range of equipment available, the degree to which you invest in "quality" materials or make do with basic items is up to you. While good quality equipment is not absolutely essential, it is always helpful to use good tools so that you can focus on their creative use rather than their physical performance.

We are aware however, that some equipment can be expensive; you will need to strike a balance between your present and future needs, and your budget.

Materials and equipment list

studio workbook (A4/A5 is a good size)

at least three drawing pencils: one medium (HB); one soft (2B); one very soft (4B or 6B)
one soft eraser

a set of colour pencils (at least 10 colours)

a minimum of 3 ink drawing pens (black) - fine, medium and broad, such as 0.1 or 0.2, 0.5, 1.0 * a selection of **light toned** spirit based markers, 3-5 colours to include light grey and green

a scale ruler (used for measuring, not for ruling lines). There are triangular section rulers with six scales on one ruler, although flat rulers with four scales are often easier to use. Get one which includes the following scales: 1:10/100; 1:20/200; 1:50/500.

masking tape

A4/3 sketchpad (or use your studio workbook) A3
paper

A3 butter paper or other cheap lightweight tracing paper

You may also like to consider the following, to add to your basic studio kit:

A supply of A3 tracing paper (prefer 110gsm) a
compressed charcoal stick, medium grade a
black Sharpie marker (fine tip)

a cutting blade PVA
glue

a plastic or wooden T-square a

plastic set square (90/60/30^{o}) a
plastic circle template

an A3 sheet of graph paper

Swann-Morton no. 10 scalpel and no.10 blades

a 'flexi-curve' - used for drawing curved lines neatly an
eraser shield – used for erasing in tight spaces

* These can be felt-tipped disposable type pens, or ink drafting pens, such as the brand *Rotring.*

Please note that these materials are needed in order to be able to complete the requirements of DESN 102. It is important that you attend each studio with the necessary materials and equipment ready at your disposal. It will be frustrating for both yourself and your tutors if you do not have these materials at hand.

From time to time during the studio programme, you may be given specific advice by your tutors regarding the need for more specialised materials. Where this is so, you will be given advance notice of what to bring.

Updated 25.03.2020 in response to the suspension of teaching due to COVID 19

School of Landscape Architecture
Faculty of Environment, Society and Design

DESN 103: Visual Communication
Semester One 2020

Examiner and lecturer **Name: Jess Rae**
Room: 135
Building: School of Landscape Architecture
Extn: 423 0405
Email: Jess.Rae@lincoln.ac.nz

Tutor Marcus Robinson
Marcus.robinson@lincoln.ac.nz

Course Prescription	An introduction to the communication of design ideas using a range of graphic formats.
Prerequisites	None
Recommended Preparation	None
Restrictions	None

Course Aims and Learning Outcomes

Aims

To develop dexterity across a range of graphic media, and to understand both the technical requirements for professional drawings as well as the creative potential of visual communication.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K.1 Describe a range of media and be able to discuss when best to use them.

K.2 Describe the connections between historic developments in representation and how we can use these techniques today

K.3 Understand the different requirements / conventions of design orientated drawing and identify appropriate graphic representation techniques (use of graphic style/type) for communicating concepts.

Skills

S.1 Communicate design ideas at a range of scales to specific audiences.
S.2 Use a range of graphic techniques at an introductory level of competence.
S.3 Demonstrate technical precision in perspective drawing.
S.4 Exercise good personal time management.

Values

V.1 Appreciate the importance of graphic representation as part of the design process, and for the communication of design.

V.2 Develop critical thinking and realise the productive value of reflection and review in design thinking and communication.

Contributions of this course to the graduate profile

The learning outcomes for this course contribute to the overall attributes expressed in the degree programme graduate profile.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week	***Week begins***	***Studio*** *Monday 1:00 – 2:00 pm (lecture) & 2:00 – 3:00 pm (studio task)*	***Studio*** *Tuesday 1:00 – 2:00 pm*	***Studio*** *Thursday 1:00 – 2:00 pm*
1	17 February	17th February Course Introduction & Overview **PROJECT BRIEFS ISSUED**	18th February Crits & Studio Work (Design Research 1)	20th February Crits & Studio Work (Design Research 2)
2	24 February	24th February Overview: Design Ideation	25th February Crits & Studio Work (Design Ideation 1)	27th February Crits & Studio Work (Design Ideation 1)
3	2 March	2nd March Overview: Furthering Design (Drawing) **P1: Studio Project – Part 1 due 8.30am**	3rd March Crits & Studio Work (Design Iteration 1)	5th March Crits & Studio Work (Design Iteration 2)
4	9 March	9th March Overview: Furthering Design (Making)	10th March Crits & Studio Work (Design Iteration 3)	12th March FIELD TRIP DAY No CLASS
5	16 March	16th March Overview: Design concept drawings **P1: Studio Project – Part 2 due 8.30am**	17th March Crits & Studio Work (Design Presentation 1)	19th March Crits & Studio Work (Design Presentation 2)
6	23 March	23rd March Overview: Design Presentation	24th March FIELD TRIP DAY No CLASS	26th March **Pin Up/Concept Presentation**
		Mid-Semester Break		
7	20 April	20th April Overview: Project Technical Production 1	21st April Crits & Studio Work (Tech. Production 1)	23rd April Crits & Studio Work (Tech. Production 2)
8	27 April	27th April ANZAC DAY No CLASS	28th April Crits & Studio Work (Tech. Production 3)	30th April Crits & Studio Work (Tech. Production 4)
9	4 May	4th May Overview: Project Technical Production 2 **P1: Studio Project – Part 3 due 8.30am**	5th May Crits & Studio Work (Tech. Production 5)	7th May Crits & Studio Work (Tech. Production 6)
10	11 May	11th May FIELD TRIP DAY No CLASS	12th May Crits & Studio Work (Tech. Production 7)	14th May Crits & Studio Work (Tech. Production 8)
11	18 May	18th May Overview: Final Presentation	19th May Crits & Studio Work (Final Presentation 1)	21st May Crits & Studio Work (Final Presentation 2)
12	25th May	25th May Overview: Portfolios **P1: Studio Project – Part 4 due 8.30am**	27th May Crits & Studio Work (Final Presentation 3)	28th May Crits & Studio Work (Final Presentation 4)
		P2: Workbook Due - Monday 8th June 8.30am	**P3: Portfolio Due - Friday 12th June 8.30am**	

Learning and Teaching Arrangements

Learning and Teaching Approach

The class is traditionally taught through a studio format, following an intensive, highly practical and collaborative approach. Self-directed student project work will be supported by online video presentations, chat sessions (Learn chat room), online critique sessions and other online resources from time to time.

Studio times –

The times below reflect when interactive online content (and online office/tutor contact time) will be in operation, replacing class room face to face sessions (see Learn for more detail)

Day	**Time**
Monday	1:00 pm – 4:00 pm
Tuesday	1:00 pm – 2:00 pm
Thursday	1:00 pm – 2:00 pm

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

~~Readings, research tasks and formative exercises will be suggested during each module.~~ Important texts will be placed on restricted loan for DESN 103 if required. It is imperative to back up your studio experience with reading from these (and other) sources. Students are actively encouraged to seek out and explore their own design inspirations, exemplars and readings throughout their course of studies.

~~Students are also encouraged to register at www.beloose.com for additional graphics tips and tricks~~ from world-renowned graphics guru Mike Lin.

Equipment to purchase

There is a focus on creative & exploratory expression throughout this subject: students will be expected to utilise and expand their skills through a range of media styles, forms and materials. A range of resources will be required for this studio and will also benefit the student throughout their continued studies.

Students will need to purchase and/or gather materials for various exercises and project work. More detail on this will be provided closer to the actual studio project involved. Page 8 contains a list of materials that will be needed for this course.

~~Teaching on Field Trip Days~~

Face-to-face activities and online office hours ***will not*** be held on field trip days.

Assessment

Formal assessment items

Assessment	Due date	Weighting %	Learning outcomes covered	Key resources
Project 1: Studio Projects	Four Parts due on subsequent Mondays – See Course Schedule above for details	40%	K1, K2, K3, S2, S4, V1, V2	Class sessions, video clips, demonstrations
Project 2: Workbook	8.30am Monday 8th June	30%	K1, K3, S1, S2, S4, V1, V2	Class sessions, video clips, demonstrations
Project 3: Portfolio	8.30am Friday 12th June	30%	K1, K3, S1, S2, S3, S4, V1, V2	Class sessions, video clips, demonstrations

Only digital submissions are required – work must be submitted at the due date and time. If a project is submitted later due to technical reasons, the examiner may decide to waive the penalty. The student needs to present evidence for the technical problem (e.g. from Lincoln University ITHelp). **Incomplete submissions that do not include all requirements may not be assessed.**

Returning of work

The School policy is to return tests and project work to students within two weeks of hand-in where possible but certainly within three weeks of hand-in.

Penalties and mandatory course requirements

Active participation in studio work, including critiques, presentations, lectures and discussion groups is an essential component of the course.

1. Late submission

In the interests of fairness and transparency, work that is submitted late, without an approved aegrotat, will have the following marks deducted:

a) if the work is submitted up to 24 hours (1 day) late **the mark will be reduced by one grade (e.g. A- to B+)**

b) if the work is submitted up to 48 hours (2 days) late **the mark will be reduced by two grades (e.g. A- to B)**

c) if the work is submitted up to 72 hours (3 days) late **the mark will be reduced by three grades (e.g. A- to B-)**

d) if the work is submitted up to 96 hours (4 days) late **the mark will be reduced by four grades (e.g. A-to C+)**

e) if the work is submitted up to 120 hours (5 days) late **the mark will be reduced by five grades (e.g. A- to C)**

Work that is submitted more than 120 hours late (five days including weekends and public holidays) after the required submission date/time **will not be assessed**, and will not receive any marks.

Mandatory course components

There are no mandatory projects in this course but you are strongly advised to complete and submit all

project work to maximise your learning, and improve your chances of gaining a good grade.

Participation

Active participation in studio tasks and associated activities is an essential component of the subject. In many cases information essential to a required project is distributed or discussed. This includes participation in any prescribed exercises, formal pin up sessions (interim or final) and crits.

Throughout the duration of the course a number of formative studies will be assigned for completion in class or as homework studies. These exercises will contribute to skill development and course assessments. It is important that students work consistently through assigned tasks and practice good time management. Informal pin ups and group critique sessions will be completed at regular intervals throughout the course. All students are expected to present work and participate in discussion(s).

Plagiarism

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations and Policies* http://learn.lincoln.ac.nz/pluginfile.php/8614/block_html/content/Universal_Course_Regulations.pdf

The University reserves the right to request further information, working drawings, or other material from a student in order to confirm the originality of the work submitted.

1. Dishonest or Improper Academic Practice

1.1 No dishonest intent[1]

a) Plagiarism[2]

Plagiarism without dishonest intent might occur when students fail to reference correctly (e.g. putting a verbatim citation in between quotation marks ("…"), but forgetting to add an in-text reference after the sentence, or forgetting to put a reference underneath images (e.g. copied from the internet).

For each different occurrence of plagiarism without dishonest intent the mark will be reduced by one grade (e.g. A- to B+).

Example: If a student failed to reference verbatim citations AND added images without references, **the mark will be reduced by two grades (e.g. A- to B).**

There is a thin line between no dishonest and dishonest intent. The will decide if a student acted out of carelessness or dishonesty. Dishonest conduct, for example, may have occurred if a student copies entire passages from a text without quotation marks and references, or if he/she only changes a few words within a copied sentence.

If a work shows severe and repeated signs of non-intentional plagiarism, the examiner may ask for a resubmission or apply the above mark penalties. In case of a resubmission, the above mark penalties will be applied based on the date of final acceptable (non-plagiarised) hand in. If the student fails to resubmit within a given amount of time without an aegrotat, the work will receive a Fail (F) grade.

b) Different digital/Paper versions

If students submit different versions for an acceptable reason, e.g. due to technical problems or by accident, **they need to let the examiner know upon hand in of the hard copy**. The examiner will grade the hard copy with consideration of the digital copy if appropriate. If the student submits different versions without an acceptable reason whether they let the examiner know or not, the examiner will decide if a student acted out of dishonesty. The examiner may apply late submission penalties based on the date/time of the paper copy submission and/or refer the case to the proctor.

[1] Definitions of 'dishonest intent' are outlined in Lincoln University's "Procedures for Dishonest and Improper Academic Practice" (October 2017)

[2] More information on plagiarism are found in the "The SOLA short guide to plagiarism (and how to avoid it)"

1.2 Possible dishonest intent

In the case of severe (intentional) forms of plagiarism or other forms of dishonest or improper academic behaviour including submitting different versions (digital/paper) without letting the examiner know, LU policy procedures "Procedures for Dishonest and Improper Academic Practice" (Oct. 2017) under Level 2 "Other Assessment Offence" should be followed.

1.3 Appeals

In accordance with Lincoln University "Procedures for Dishonest and Improper Academic Practice" (October 2017), the examiner "will advise the student of their right to appeal to the Faculty Dean or Division Director (or their nominated deputy). The appeal must be in writing, stating the reason for the appeal and be submitted within five working days of notification" (p.2).

To ensure that late work is not lost and that penalties are delivered consistently, all late work for any course must be placed into the specially marked box (the "late box") beside the lift on the studio level. If an examiner receives work via some other avenue (e.g. if it appears in their mailbox) then the penalty for lateness will be awarded based on the time the examiner picks up the work regardless of when the work was submitted late. Examiners are not responsible for lost work when it is not handed in via the late box. The late penalty associated with work collected from the late box will be calculated at the time of daily pick up.

Office Hours and Feedback Opportunities

Office Hours

The chat room on learn will be available during the stated hours (see above). Please email the examiner for a suitable time if you wish to have a discussion via skype.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email).

Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Copyright

There is a copyright agreement that relates to student projects; all BLA and MLA students are required to read and complete this agreement, which is available from the department administrator (SOLA).

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Directed Contact Hours	**Total hours (over semester)**
Online lessons (videos and demonstrations), online meetings/crits and/or tutorials,	50
Non-contact Hours	
Self-directed learning, e.g. study, field observation, project research and presentation prep	100
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Academic and Career Skills team in Learning, Teaching and Library offers free programmes and resources that can help you to succeed in your studies and career planning. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, employment, and mathematics / statistics skills. They can also support students who are faced with the challenges of a disability, illness or injury, whether this is short term or long term. To find out more, log into the website at http://ltl.lincoln.ac.nz.

While there is no face-to-face learning and teaching on campus, the learning advisors are available 'on line'.

For 'quick questions', use AskLive (Monday to Friday 9am to 4pm) or contact us after hours. (AskLive is at http://ltl.lincoln.ac.nz.)
For more in-depth advice, book an appointment. Appointments are offered via video conferencing, telephone or email. (Bookings at https://ltl.lincoln.ac.nz/advice/study-skills/appointments/)
For on-line workshops, see http://ltl.lincoln.ac.nz for current information.

Once face-to-face learning and teaching recommences, you can visit the team in Ivey Hall. There will be regular drop in sessions, during which you can ask 'quick questions', as well as bookable appointments and workshops.

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

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A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. A student rep or reps will be elected for your year and introduced to the class in the first week of the semester.

LUSA - Student Advice and Support

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formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

First Year Studio Materials List

The following materials will be required during studio projects undertaken in the first year. You may already have some of these items at home. You may choose to look at the following suppliers if you need to purchase these items (student discounts may apply at these outlets):

Gordon Harris; 163 Madras St, www.gordonharris.co.nz
The Drawing Room; 500 Colombo St, www.thedrawingroom.co.nz

There is a wide range of equipment available, the degree to which you invest in "quality" materials or make do with basic items is up to you. While good quality equipment is not absolutely essential, it does lead to an improved job, both in terms of ease of use and visual appearance. The university is aware however, that equipment is expensive, and student resources are limited. You will need to strike a balance between your present and future needs, and your budget. If you intend to continue your studies in landscape architecture, you would be well advised to buy good quality equipment.

Please note that the majority of these materials will be necessary in order to be able to complete the requirements of DESN 103. It is important that you attend each studio with the necessary materials and equipment ready at your disposal. It will be frustrating for both yourself and your tutors if you do not have these materials at hand.

From time to time during the studio programme, you may be given specific advice by your tutors regarding the need for more specialised materials. Where this is so, you will be given advance notice of what to bring.

Materials List - Items noted in **bold are required for DESN 103**

a range of good quality drawing pencils, including: 2H, 2B, 4B & 6B
B pencils should be wooden with a soft graphite core – rather than mechanical
one soft eraser
a set of *good quality* soft, colour pencils (3-10 colours)
a minimum of 5 ink drawing pens (black) - including 0.1; 0.3; 0.5; 0.7; 1.0 * at least 1
compressed charcoal stick, medium/heavy grade (pitt charcoal)
pitt charcoal is required rather than willow charcoal and/or charcoal pencils (these are optional)
a selection of light toned spirit based markers, minimum of 3 colours (including light grey, green) and a blender pen.
one black Sharpie marker (fine tip)
cutting blade
PVA glue
a scale ruler (used for measuring, not for ruling lines).
The best value rulers are the triangular section ones with six scale orders on the one ruler. Try to get one with the following scales: 1:10/100; 1:20/200; 1:250; 1:50/500.
a plastic or wooden T-square
a plastic set square (90/60/30^{o})
a plastic circle template Masking tape
A3 paper sketchpad (20+ pages minimum) Visual diary (A4 size)
a good supply of A3 butter paper or other cheap lightweight tracing paper several sheets of A3 tracing paper (prefer 110gsm).

one A3 sheet of graph paper

Swann-Morton no. 10 scalpel and blades (no.10 blades) - *optional* a 'flexi-curve' - *optional* (used for drawing curved lines neatly)

an eraser shield – *optional* (used for erasing in tight spaces)

* You will need a range of drafting pens. Your work will almost certainly benefit from good quality ink pens, such as the brand *Rotring*. However these pens are very expensive, and for this reason, you may prefer to buy good quality fine felt tipped disposable type pens instead.

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND
New Zealand's specialist land-based university
School of Landscape Architecture
Faculty of Environment Society and Design

DESN 104 History of Design and Culture
Semester 2, 2019

Examiner Jess Rae
Room: 135
Building: Landscape Architecture Building
Ph: 423 0405
Email: jess.rae@lincoln.ac.nz

Lecturers Jacky Bowring, Jess Rae

Tutor/s Anupriya Sukumar anupriya.sukumar@lincolnuni.ac.nz

Course Prescription	A comparative international review of the historical relationship between design and culture, with particular reference to urban design history and its relevance to contemporary design and practice.

Course Aims and Learning Outcomes

Aims
The main aim of this course is:

1. To gain an understanding of the key ideas and philosophies underlying the development of design within a context of cultural change.

Learning outcomes
After successfully completing this course students will be able to:

Knowledge
K1 Describe a range of important examples of international landscape, architectural and urban design
K2 Discuss the evolution of the relationship between architecture, landscape architecture and urban design

Skills
S1 Develop a critical approach to design work
S2 Apply historical examples as a contrast with, or reference to, contemporary design
S3 Interpret urban design concepts from different cultures and situations
S4 Identify and apply landscape and urban design concepts in the Aotearoa-New Zealand bicultural context.
S5 Distinguish culturally specific from general design principles

Values

V1 Establish the foundation for lifelong learning as designers and as informed occupants of designed landscapes

V2 Appreciate the relationship between attitudes to the environment, and landscape, and urban form

V3 Appreciate the implications of the Treaty of Waitangi and biculturalism in terms of the form and design of landscapes and architecture in Aotearoa New Zealand.

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including short videos, case study discussions, interactive class sessions, and tutorials. Students are strongly advised to make full use of all available learning opportunities

Face-to-face Learning Activities

Teaching Sessions; Please check the Learn schedule, this is the general outline only

Session Format:	*Day*	*Time*	*Room*
Lecture	Tuesday	9-10am	B740
Lecture w Mini Studio	Wednesday	10-12pm	B740
Tutorial (Stream A)	Wednesday	12-1pm	B740
Tutorial (Stream B)	Thursday	9-10am	B740

Course Resources and Activities:

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Notes

Lecture notes will be posted on LEARN. It is important to note that the images shown in lectures will not all be available in the PDFs of the notes, as copyright regulations prevent this. Some readings will be placed on the relevant LEARN site. Camtasia recordings will be made where possible and also placed on LEARN.

Teaching on Field Trip Days

Face-to-face activities and office hours ***will not*** be held on field trips days.

The following course schedule (see next page) indicates the general programme and timing for this course. Please note it may sometimes be necessary to adjust the schedule. Students are advised to check the schedule posted on Learn and subscribe to the DESN 104 General Forum for updates.

Course Content

1: Overview of History	Note: All classes in B740
Week One 15 July	**Weekly Topic(s): Design History** Tuesday @ 9am: LECTURE – Antiquity (JB) Wednesday @ 10am : LECTURE / Mini Studio – Introduction (JR) Wednesday @ 12pm: TUTORIAL Stream A Thursday @ 9am : TUTORIAL Stream B
Week Two 22 July	**Weekly Topic(s): Design History** Tuesday @ 9am : LECTURE – Medieval (JB) Wednesday**: FTD – NO LECTURE or TUTORIALS** Thursday @ 9am : TUTORIAL Stream B
Week Three 29 July	**Weekly Topic(s): Design History** Tuesday @ 9am: LECTURE – Renaissance & Baroque (JB) Wednesday @ 10am : LECTURE / Mini Studio – Design Tools 1 (JR) Wednesday @ 12pm: TUTORIAL Stream A Thursday @ 9am : TUTORIAL Stream B
Week Four 5 Aug	**Weekly Topic(s): Design History** Tuesday @ 9am: LECTURE – Picturesque (JB) Wednesday @ 10am : LECTURE / Mini Studio Design Tools 2 (JR) Wednesday @ 12pm: TUTORIAL Stream A Thursday @ 9am : TUTORIAL Stream B
Week Five 12 Aug	**Weekly Topic(s): Design History** Tuesday @ 9am: LECTURE – Gardenesque (JB) Wednesday @ 10am : LECTURE / Mini Studio – Design and Representation 1 (JR) Wednesday @ 12pm: TUTORIAL Stream A Thursday @ 9am : TUTORIAL Stream B
Week Six 19 Aug	**Weekly Topic(s): Design History Timelines** Tuesday: **FTD – NO LECTURE** Wednesday @ 10am: LECTURE / Mini Studio – Design and Representation 1 (JR) Wednesday @12pm: TUTORIAL Stream A Thursday @ 9am: LECTURE – Modernism (JB) ***Project One due: 8:30am Friday August 23rd***
26 Aug/2 Sept	Mid semester break
1: Case Studies – Places & Types	
Week Seven 9 Sept	**Weekly Topic(s): Case Study 1 & 2** Tuesday: LECTURE – Aotearoa New Zealand 1 (JB) Wednesday: LECTURE / Mini Studio - Culture & design 1 (JR) Wednesday: TUTORIAL Stream A Thursday: TUTORIAL Stream B
Week Eight 16 Sept	**Weekly Topic(s): Case Study 3 & 4** Tuesday: LECTURE – Aotearoa New Zealand 2 (JB) Wednesday: LECTURE / Mini Studio - Culture & design 2 (JR) Wednesday: TUTORIAL Stream A Thursday: TUTORIAL Stream B
Week Nine 23 Sept	**Weekly Topic(s): Case Study 5 & 6** Tuesday: LECTURE – Utopias (JB) Wednesday: LECTURE / Mini Studio – Astroscapes (JR) Wednesday: TUTORIAL Stream A Thursday: TUTORIAL Stream B
Week Ten 30 Sept	**Weekly Topic(s): Case Study 7 & 8** Tuesday: LECTURE – Cemeteries (JB) Wednesday: LECTURE / Mini Studio – Healthscapes (JR) Wednesday: TUTORIAL Stream A Thursday: **FTD – NO TUTORIAL**
Week Eleven 7 Oct	**Weekly Topic(s): Case Study 9 & 10** Tuesday: LECTURE – New York (JB) Wednesday: LECTURE / Mini Studio – Waterscapes (JR) Wednesday: TUTORIAL Stream A Thursday: TUTORIAL Stream B
Week Twelve 14 Oct	**Weekly Topic(s): Case Study 11 & 12** Tuesday: LECTURE – Venice (JB) Wednesday: LECTURE / Mini Studio – Design Futures & Disaster (Pacific) (JR) Wednesday: EXAM REVIEW - JR Thursday: TUTORIAL Stream B ***Project Two due: 8:30am Friday October 11th***

FTD = Field Trip Day

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered
Project 1 (Design Histories)	25%	8.30am Friday Aug 23rd	K1, K2, S1, S2, S3, V1, V2
Project 2 (Design Case Studies)	25%	8.30am Friday Oct 11th	K1, K2, S1, S2, S3, V1, V2, V3
Exam	50%	TBC	K1, K2, S1, S2, S3, V1, V2, V3

Both digital and paper submissions must be submitted at the due date. If a paper submission is submitted later, late submission penalties apply based on the date/time of the late box clearance. If a student provides evidence that the paper copy was submitted later due to printing or other technical problems, the examiner may decide to waive the penalty. The student needs to present evidence for the technical problem (e.g. from Lincoln University ITHelp). **Incomplete submissions that do not include both digital and paper submissions will not be assessed.**

Returning of work

The School policy is to return tests and project work to students within two weeks of hand-in where possible but certainly within three weeks of hand-in.

The School also intends to return tests or project work prior to the final examination in this course to enable students to enter their examination with a clear understanding of the current level of their assessment

Assessment Summaries

Assignments

The assignments are to be submitted by 8.30am on the dates above, as both digital (uploaded onto Learn) and hard copy (handed in to submission box on first floor of Landscape Architecture Building). The assignments are to be completed individually. The assignments contribute to a maximum of 50% of the final grade. Instructions will be made available on the course webpage.

Final Examination

The final examination is 3 hours in duration. Material covered during lectures, self-study and online material, review material, assigned readings and supplementary material are examinable unless otherwise stated by the Examiner. A review session for the final exam will be held in week 12 during the normal class time.

Mandatory requirements and Penalties

1. Late submission

In the interests of fairness and transparency, work that is submitted late, without an approved aegrotat, will have the following marks deducted:

a) if the work is submitted up to 24 hours (1 day) late the mark will be reduced by one grade (e.g. A- to B+)

b) if the work is submitted up to 48 hours (2 days) late the mark will be reduced by two grades (e.g. A- to B)

c) if the work is submitted up to 72 hours (3 days) late the mark will be reduced by three grades (e.g. A- to B-)
d) if the work is submitted up to 96 hours (4 days) late the mark will be reduced by four grades (e.g. A- to C+)
e) if the work is submitted up to 120 hours (5 days) late the mark will be reduced by five grades (e.g. A- to C)

Work that is submitted more than 120 hours late (five days including weekends and public holidays) after the required submission date/time will not be assessed, and will not receive any marks.

To ensure that late work is not lost and that penalties are delivered consistently, all late work for any course must be placed into the specially marked box (the "late box") beside the lift on the studio level. If an examiner receives work via some other avenue (e.g. if it appears in their mailbox) then the penalty for lateness will be awarded based on the time the examiner picks up the work regardless of when the work was submitted late. Examiners are not responsible for lost work when it is not handed in via the late box. The late penalty associated with work collected from the late box will be calculated at the time of daily pick up.

Both digital and paper submissions must be submitted at the due date. If a paper submission is submitted later, late submission penalties apply based on the date/time of the late box clearance. If a student provides evidence that the paper copy was submitted later due to printing or other technical problems, the examiner may decide to waive the penalty. The student needs to present evidence for the technical problem (e.g. from Lincoln University ITHelp). Incomplete submissions that do not include both digital and paper submissions will not be assessed.

2. Dishonest or Improper Academic Practice

2.1 No dishonest intent

a)Plagiarism

Plagiarism without dishonest intent might occur when students fail to reference correctly (e.g. putting a verbatim citation in between quotation marks ("…"), but forgetting to add an in-text reference after the sentence, or forgetting to put a reference underneath images (e.g. copied from the internet).

For each different occurrence of plagiarism without dishonest intent the mark will be reduced by one grade (e.g. A- to B+).

Example: If a student failed to reference verbatim citations AND added images without references, the mark will be reduced by two grades (e.g. A- to B).

There is a thin line between no dishonest and dishonest intent. The will decide if a student acted out of carelessness or dishonesty. Dishonest conduct, for example, may have occurred if a student copies entire passages from a text without quotation marks and references, or if he/she only changes a few words within a copied sentence.

If a work shows severe and repeated signs of non-intentional plagiarism, the examiner may ask for a resubmission or apply the above mark penalties. In case of a resubmission, the above mark penalties will be applied based on the date of final acceptable (non-plagiarised) hand in. If the student fails to resubmit within a given amount of time without an aegrotat, the work will receive a Fail (F) grade.

b) Different digital/Paper versions

If students submit different versions for an acceptable reason, e.g. due to technical problems or by accident, they need to let the examiner know upon hand in of the hard copy. The examiner will grade the hard copy with consideration of the digital copy if appropriate. If the student submits different versions without an acceptable reason whether they let the examiner know or not, the examiner will decide if a student acted out of dishonesty. The examiner may apply late submission penalties based on the date/time of the paper copy submission and/or refer the case to the proctor.

2.2 Possible dishonest intent

In the case of severe (intentional) forms of plagiarism or other forms of dishonest or improper

academic behaviour including submitting different versions (digital/paper) without letting the examiner know, LU policy procedures "Procedures for Dishonest and Improper Academic Practice" (Oct. 2017) under Level 2 "Other Assessment Offence" should be followed.

2.3 Appeals

In accordance with Lincoln University "Procedures for Dishonest and Improper Academic Practice" (October 2017), the examiner "will advise the student of their right to appeal to the Faculty Dean or Division Director (or their nominated deputy). The appeal must be in writing, stating the reason for the appeal and be submitted within five working days of notification" (p.2).

Office Hours and Feedback Opportunities

Students are welcome to make an appointment to meet with the examiner, at a mutually agreeable time.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format with which they feel comfortable (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Health and Safety off-campus

Field Trips: full details will be provided separately. Refer to the Code of Conduct for Trips, Tours and other External Activities:
http://learn.lincoln.ac.nz/pluginfile.php/8614/block_html/content/Code_of_Conduct_Field_Trips.pdf

All students must complete a health and safety form before going on any field trip or tour. This needs to be completed only once during your degree. But it is **your responsibility** to check that all details are up to date including medical and next of kin details. See our School Administrator to check your details.

You may need to visit project sites from time to time. Site visits undertaken in association with project work are not official field trips or tours. Any visits you undertake, even in the company of other students or staff, are your personal responsibility. You must satisfy yourself that your travel arrangements and any actions that you take to and from the site visit, and during the visit itself, are legal and safe. Enrolment in this course requires that you accept this personal responsibility. Please contact the examiner if any aspect of this policy is unclear, or you seek clarification of any aspect.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact, e.g. lectures, tutorials, interactive studio session, exams	51 hours

Non-contact Hours	
Self-directed learning (case study research), background reading and tutorial preparation. Individual project work Exam preparation	40 hours 35 hours 24 hours
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.
http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. A student rep or reps will be elected for your year and introduced to the class in the first week of the semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

School of Landscape Architecture
Faculty of Environment, Society and Design

ENGN106
Land Surfaces, Water and Structures
Semester Two, Block 2, 2019

Examiner Jess Rae
Room: 135
Building: School of Landscape Architecture
Phone: 423 0405
Email: Jess.Rae@lincoln.ac.nz

Lecturer/s Chris Owen
Nancy Vance

Tutor/s Naomi Crawford, Marcus Robinson

Course Prescription	An introduction to a range of engineering design concepts applied to structures and land surfaces.
Prerequisites	None
Recommended Preparation	None
Restrictions	None

Course Aims and Learning Outcomes

Aims
The main aims of this course are:

1. To provide an introduction to a range of engineering concepts and enable students to successfully describe and manipulate landform surfaces, areas and volumes.
2. To enable students to describe how engineering concepts apply to small structures using common materials, and provide a basic understanding of the building act.
3. To enable students to understand basic stormwater engineering concepts and their relevant application;.

Learning outcomes
After successfully completing this course students will be able to:

Knowledge
K1. Describe landform surfaces using contours, spot heights and gradients, and compare the implications

and effects of different slope gradients on land surfaces.

K2. Discuss the relative advantages, disadvantages and implications of cut and fill options.

K3. List the key features of the building code which apply to the design and building of structures.

K4. Describe how loads are impressed, transferred and counteracted in a range of small structures through basic structural design considerations, including decks, solid fences, retaining walls, and describe pergolas.

K5. Describe basic design considerations for stormwater detention and drainage solutions, and their respective advantages and disadvantages.

Skills

S1. Undertake a survey of a site, recording accurate horizontal and vertical field data and prepare a site plan for a small area, using data recorded in the site survey.

S2. Translate contours into 3D sections and / or elevations, from a 2D contour plan, and calculate quantities of cut and fill, using a range of volume calculation methods.

S3. Review the physical characteristics of common building materials, and describe how these characteristics influence design decisions.

S4. Design small decks and retaining walls using basic structural concepts, which follow rules and regulations of the building act.

S5. Perform basic stormwater design calculations for the design of a first flush stormwater detention basin / rain garden.

Values

V1. Appreciate the responsibility that is taken when engineered design is applied to small structures, land surfaces and stormwater, and the importance of accuracy in design.

V2. Recognise the value of confirming and coordinating engineered design decisions with a professional engineer.

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including lectures, workshops, lab based tutorials, self-study material, group work, and office hours. Students are strongly advised to make full use of all available learning opportunities.

Face-to-face Learning Activities

Teaching Sessions; Please check the Learn schedule, this is the general outline only

Session Format:	*Day*	*Time*	*Room*
Project Briefing/lecture *	Selected Tuesdays	10-11am	B4
Lecture /Practical	Thursday	10-12pm	B4 then first year studio
Lab/ Tutorial	Friday	10-12pm	Studio (or Structures Lab)

*In the event of any room relocation(s) for certain lab activities and tutorials you will be advised via LEARN at least 24hrs before the relevant class. Some labs will be held in locations other than the Structures Lab or Studio. Students will be advised of venues during the semester.

The following course schedule indicates the general programme and timing for this course. Please note it may sometimes be necessary to adjust the schedule. Students are advised to check the schedule posted on Learn and subscribe to the ENGN 106 General Forum for updates.

Course Content

Week Begins	Note: Lectures are held in B4; Tutorials/Practicals in Studio and/or Structures lab
Week One 15 July	**Weekly Topic(s): Module 1** Tuesday @ 10am: STUDENT BRIEFING/COURSE INTRODUCTION - JR Thursday @ 10am : LECTURE – Land Surfaces (CO) with Project Introduction/practical in studio Friday @ 10am : LECTURE/TUTORIAL - First Year Studio (JR & CO)
Week Two 22 July	**Weekly Topic(s): Module 1** Thursday @ 10am : LECTURE – Land Surfaces (CO) followed by practical in studio Friday @ 10am : LECTURE/TUTORIAL - First Year Studio (JR & CO)
Week Three 29 July	**Weekly Topic(s): Module 1** Tuesday @ 10am: STUDENT BRIEFING - JR Thursday @ 10am : LECTURE – Land Surfaces (CO) followed by practical in studio Friday @ 10am : LECTURE/TUTORIAL - First Year Studio (JR & CO)
Week Four 5 Aug	**Weekly Topic(s): Module 1** Thursday @ 10am : LECTURE - Land Surfaces (CO) followed by practical in studio Friday @ 10am : LECTURE/TUTORIAL - First Year Studio (JR & CO)
Week Five 12 Aug	**Weekly Topic(s): Module 2** Tuesday @ 10am: STUDENT BRIEFING/MODULE INTRODUCTION - JR Thursday @ 10am : LECTURE/Practical – Built Structures (JR) Friday @ 10am : LECTURE/TUTORIAL - First Year Studio (JR & NC)
Week Six 19 Aug	**Weekly Topic(s): Module 2** Tuesday: **FTD – NO CLASS** Thursday @ 10am : LECTURE/Practical – Built Structures (JR) Friday @ 10am : LECTURE/TUTORIAL - First Year Studio (JR & NC)
26 Aug/2 Sept	Mid semester break
Project One due: 8:30am Monday Sept 9th	
Week Seven 9 Sept	**Weekly Topic(s): Module 2** Tuesday @ 10am: PROJECT TWO INTRODUCTION - JR Thursday @ 10am : LECTURE/Practical – Built Structures (JR) Friday @ 10am : LECTURE/TUTORIAL - First Year Studio (JR & NC)
Week Eight 16 Sept	**Weekly Topic(s): Module 2** Thursday @ 10am : LECTURE/Practical – Built Structures (JR) Friday @ 10am : LECTURE/TUTORIAL - First Year Studio (JR & NC)
Week Nine 23 Sept	**Weekly Topic(s): Module 3** Tuesday @ 10am: MODULE INTRODUCTION - JR Thursday @ 10am : LECTURE - TBC Friday @ 10am : LAB/TUTORIAL
Week Ten 30 Sept	**Weekly Topic(s): Module 3** Thursday: **FTD – NO CLASS** Friday @ 10am : LAB/TUTORIAL
Week Eleven 7 Oct	**Weekly Topic(s): Module 2** Tuesday @ 10am: STUDENT BRIEFING - JR Thursday @ 10am : LECTURE - TBC Friday @ 10am : LAB/TUTORIAL
Week Twelve 14 Oct	**Weekly Topic(s): Module 2** Tuesday @ 10am: STUDENT BRIEFING - JR Thursday @ 10am : LECTURE - TBC Friday @ 10am : LAB/TUTORIAL
Project Two & Three due: 8:30am Monday October 21st	

FTD = Field Trip Day

Course Resources and Activities:

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Notes

Lecture notes will be posted on LEARN. It is important to note that some of the images shown in lectures will not all be available in the PDFs of the notes, as copyright regulations prevent this. Some readings will be placed on the relevant LEARN site.

Teaching on Field Trip Days

While lectures and contact hours ***will not*** be held on field trip days, practical tutorials and laboratory sessions which occur on field trip days will be held. Any student who feels that they might be disadvantaged by this should contact the examiner so that alternative arrangements can be made.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered
P1 Site Surfaces & Design	25%	9th Sept	K1, K2, S1, S2, S3, V1, V2
P2 Site Water & Structures	25%	21st Oct	K1, K2, K4, S1, S3, S4, V1, V2
P3 Lab book	10%	21st Oct	K1, K3, K5, S2, S4, S5, V1, V2
Exam	40%	TBC	All

Both digital and paper submissions must be submitted at the due date. If a paper submission is submitted later, late submission penalties apply based on the date/time of the late box clearance. If a student provides evidence that the paper copy was submitted later due to printing or other technical problems, the examiner may decide to waive the penalty. The student needs to present evidence for the technical problem (e.g. from Lincoln University ITHelp). **Incomplete submissions that do not include both digital and paper submissions will not be assessed.**

Assessment Summaries

Projects

P1: Site Surfaces & design [Due: 8.30am Mon 9th Sept 2019]
A mapping and design project which involves recording and mapping both horizontal and vertical base data for the identified site and then developing a site specified design based on findings. .

P2: Site water & Structures [Due: 8.30am Mon 21st Oct 2019]
A project which both focuses on structural design, the use of structural materials on site and sit drainage solutions.

P3: Lab Workbooks [Due: 8.30am Mon 21st Oct 2019]
Summary and write up of lab/tutorial exercises and assigned tasks (includes both practical and theoretical components). Compulsory attendance at Friday lab/tutorial sessions is required for this course. Failure to attend a minimum 80% of tutorial sessions without aegrotat/accepted absence will result in an automatic fail of Project Three.

Returning of work
The School policy is to return tests and project work to students within two weeks of hand-in where possible but certainly within three weeks of hand-in.

The School also intends to return tests or project work prior to the final examination in this course to enable students to enter their examination with a clear understanding of the current level of their assessment.

Mandatory requirements and Penalties

Lab/Tutorial Attendance:
Attendance at laboratories/tutorials is compulsory. Students must attend a minimum of 80% of the Friday lab/tutorial sessions. Failure to attend the minimum number of sessions will result in an automatic fail for Project Three - Lab Workbooks (equating to a 10% penalty off the final grade for the course). Building Tech labs will be held in the Structures Lab, all other sessions shall be held in the first year studio @ SOLA.

Each module requires the completion of specific exercises. All students are required to submit lab/tutorial exercises and workings as part of their final lab book submission. Interim submission may be required for lab exercises and associated activities.

Final Examination
The final examination is 3 hours in duration. Material covered during lecture, self-study and online material, review material, assigned readings and supplementary material are examinable unless otherwise stated by the Examiner. A review session for the final exam will be held prior to the exam. The time and date for this session is to be confirmed.

Attendance at the Exam
The formal examination for this course is a compulsory component of this course.
In order to be awarded a pass grade in the course students must attend the final examination and attain a mark of 50 percent or more in the course overall. A student may receive a grade of DNS (fail) for this course if he or she obtains a mark of 50 percent or more in the course overall, but fails to attend the final examination.

Course policy:

Active participation in critiques, presentations, lectures and discussion groups is an essential component of the course. In many cases information essential to a required project is distributed or discussed at the beginning of class. Students who miss or who are late for tutorial sessions will lose marks in the project to which the teaching activity relates, unless they have an approved aegrotat. An attendance record of sign-up sheets will be kept, and students who miss, or who are late for, more than two tutorial sessions during the semester without an approved aegrotat will have their final grade reduced by five marks.

Tutorial time specified in the course outline will be devoted to scheduled projects and class exercises only, and no other work will be permitted during tutorial hours unless specifically approved by a tutor. All students are required to keep and organise their lecture notes, tutorial comments and sketches for further reflection and consideration. Full attendance, full attention, and full effort is required, in order to gain the most from this course.

Penalties:

1. Late submission

In the interests of fairness and transparency, work that is submitted late, without an approved aegrotat, will have the following marks deducted:

a) if the work is submitted up to 24 hours (1 day) late the mark will be reduced by one grade (e.g. A- to B+)

b) if the work is submitted up to 48 hours (2 days) late the mark will be reduced by two grades (e.g. A- to B)

c) if the work is submitted up to 72 hours (3 days) late the mark will be reduced by three grades (e.g. A- to B-)

d) if the work is submitted up to 96 hours (4 days) late the mark will be reduced by four grades (e.g. A- to C+)

e) if the work is submitted up to 120 hours (5 days) late the mark will be reduced by five grades (e.g. A- to C)

Work that is submitted more than 120 hours late (five days including weekends and public holidays) after the required submission date/time will not be assessed, and will not receive any marks.

To ensure that late work is not lost and that penalties are delivered consistently, all late work for any course must be placed into the specially marked box (the “late box”) beside the lift on the studio level. If an examiner receives work via some other avenue (e.g. if it appears in their mailbox) then the penalty for lateness will be awarded based on the time the examiner picks up the work regardless of when the work was submitted late. Examiners are not responsible for lost work when it is not handed in via the late box. The late penalty associated with work collected from the late box will be calculated at the time of daily pick up.

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2. Dishonest or Improper Academic Practice

2.1 No dishonest intent

a) Plagiarism

Plagiarism without dishonest intent might occur when students fail to reference correctly (e.g. putting a verbatim citation in between quotation marks (“…”), but forgetting to add an in-text reference after the sentence, or forgetting to put a reference underneath images (e.g. copied from the internet).

For each different occurrence of plagiarism without dishonest intent the mark will be reduced by one grade (e.g. A- to B+).

Example: If a student failed to reference verbatim citations AND added images without references, the mark will be reduced by two grades (e.g. A- to B).

There is a thin line between no dishonest and dishonest intent. The will decide if a student acted out of carelessness or dishonesty. Dishonest conduct, for example, may have occurred if a student copies entire passages from a text without quotation marks and references, or if he/she only changes a few words within a copied sentence.

If a work shows severe and repeated signs of non-intentional plagiarism, the examiner may ask for a resubmission or apply the above mark penalties. In case of a resubmission, the above mark penalties will be applied based on the date of final acceptable (non-plagiarised) hand in. If the student fails to resubmit within a given amount of time without an aegrotat, the work will receive a Fail (F) grade.

b) Different digital/Paper versions

If students submit different versions for an acceptable reason, e.g. due to technical problems or by accident, they need to let the examiner know upon hand in of the hard copy. The examiner will grade the hard copy with consideration of the digital copy if appropriate. If the student submits different versions without an acceptable reason whether they let the examiner know or not, the examiner will decide if a student acted out of dishonesty. The examiner may apply late submission penalties based on the date/time of the paper copy submission and/or refer the case to the proctor.

2.2 Possible dishonest intent

In the case of severe (intentional) forms of plagiarism or other forms of dishonest or improper academic behaviour including submitting different versions (digital/paper) without letting the examiner know, LU policy procedures “Procedures for Dishonest and Improper Academic Practice” (Oct. 2017) under Level 2 “Other Assessment Offence” should be followed.

2.3 Appeals

In accordance with Lincoln University “Procedures for Dishonest and Improper Academic Practice” (October 2017), the examiner “will advise the student of their right to appeal to the Faculty Dean or Division Director (or their nominated deputy). The appeal must be in writing, stating the reason for the appeal and be submitted within five working days of notification” (p.2).

Aegrotats

An aegrotat exemption or concession cannot be given for studio work; an aegrotat can only be used to allow an extension of time in studio classes. It is therefore essential that you seek an aegrotat as soon as you are aware that illness, accident or family circumstances prevent you from completing a project on time. In certain circumstances a project's due date may be extended beyond the end of the semester to ensure that students are not penalised through undue pressure of work.

Office Hours and Feedback Opportunities

Students are welcome to make an appointment to meet with the examiner, at a mutually agreeable time.

Students are to contact the Examiner’s office to make an appointment at a mutually agreeable time. Office hours are by appointment, contact Jess: Jess.Rae@lincoln.ac.nz

Towards the end of semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format with which they

feel comfortable (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Guest lecturers

Professionals from practice will present lectures on relevant and topical issues. The provision of guest lecturers is dependent upon availability of external individuals and may be affected by external circumstances.

Health and Safety off-campus

Site Visits full details will be provided separately.
Refer to the Code of Conduct for Trips, Tours and other External Activities:
http://learn.lincoln.ac.nz/pluginfile.php/8614/block_html/content/Code_of_Conduct_Field_Trips.pdf

You may need to visit project sites from time to time. Site visits undertaken in association with project work are not official field trips or tours. Any visits you undertake, even in the company of other students or staff, are your personal responsibility. You must satisfy yourself that your travel arrangements and any actions that you take to and from the site visit, and during the visit itself, are legal and safe. Enrolment in this course requires that you accept this personal responsibility. Please contact the examiner if any aspect of this policy is unclear, or you seek clarification of any aspect.

All students must complete a health and safety form before going on any field trip or tour. This needs to be completed only once during your degree. But it is **your responsibility** to check that all details are up to date including medical and next of kin details. See our School Administrator to check your details.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Lectures	29
Tutorials	24
Exam	3
Non-contact Hours	
Project Work (Group Work)	40
Project Preparation (Individual)	15
Lab/Tutorial Prep	12
Exam Prep	12
Self-Directed Study	15
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Academic and Career Skills team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies, career planning and job searching. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, employment and mathematics / statistics skills.

To find out more, log into the website at http://ltl.lincoln.ac.nz or visit Library Teaching and Learning in Ivey Hall. For in-depth questions, book an appointment (via the website) or come to one of our daily "drop ins" - Monday to Friday 10.30-11.30am.

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. A student rep or reps will be elected for your year and introduced to the class in the first week of the semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND
New Zealand's specialist land-based university

Faculty of Agriculture and Life Sciences
Department of Pest-management and Conservation
Department of Soil and Physical Sciences

PHSC 107 Introduction to Earth and Ecological Sciences
Semester 1, Term 2, 2020

Co-Examiner: (earth science)	Dr Carol Smith **Phone:** 423 0791 **Email:** carol.smith@lincoln.ac.nz
Co-Examiner: (ecology)	Assoc. Professor Adrian Paterson **Phone:** 423 0750 **Email:** adrian.paterson@lincoln.ac.nz
Main Tutor:	Judith Butel **Phone:** 423 0801 **Email:** judith.butel@lincoln.ac.nz
Other Tutors:	Louisa Hall **Email:** louisa.hall@lincoln.ac.nz Josh Nelson **Email:** josh.nelson@lincoln.ac.nz
Course Prescription	An introduction to the basic concepts necessary for a scientific understanding of the physical structure of planet Earth and the life that it supports.
Prerequisites	None
Recommended Preparation	None
Restrictions	PHSC105

Course Aims and Learning Outcomes

Aims

The main aims of this course are:

1. To establish a basis for the subsequent study of the biophysical environment
2. To develop an understanding of the key principles in earth and life science and examples of how they operate

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1: Demonstrate an understanding of the physical materials and resources that comprise the planet Earth.

K2: Investigate the fundamental geological processes that cause landscape change.

K3: Explain and discuss the relationship between the physical environment and living organisms.

K4: Explain and discuss the causes and consequences of ecosystem change.

Skills

S1: Recognise geological materials and classify them at a basic level.

S2: Work effectively as part of a team on a scientific problem.

S3: Communicate a theoretical understanding of the basic principles of the geological and biological sciences.

Values

V1: Express evidence-based value judgments concerning the land and its biological components, including sustainable resource management, human-landscape interactions and environmental and conservation management.

V2: Articulate an understanding of the scientific method and its importance for addressing ecological issues.

V3: Demonstrate an awareness of the importance of multiple perspectives when applying geological and biological principles to human problems.

Learning and Teaching Arrangements

Posting of Online Learning Resources

- **Monday**
  - Video posted (max 15 minutes) to talk you through what you are expected to do that week.
  - Lecture resources for that week (2 or 3 as per timetable) posted.
    - Lecture slides or alternative
    - Lecture recording or alternative
  - If applicable: practical exercises posted online.
- **Thursday**
  - If applicable: Internal assessment linked to practical exercises posted.
  - At end of Module: 1% questionnaires posted to evaluate our online learning platform.

Expected participation on the online learning platform.

- **Lectures**
  - We recommend that on each of the blocked lecture days (Monday, Tuesday, Thursday) you work through 1 of the lectures (or alternative resource).
- **Practical learning**
  - We recommend that during your usual lab time (Tuesday or Wednesday) you work on internal assessment and/or the practical exercises.
  - Assessment is through the exercises – completion is mandatory to gain any marks for the exercise and the 1% questionnaire.
    - Exercises to be completed each week before 5pm on Thursday.

Staff contact hours

- **Email**
  - You can email us at any time. We will be working regular office hours and will reply to your email as soon as possible during office hours.
- **Phone/Skype**
  - If necessary, we can arrange a time for a phone or skype call. Staff will accommodate any time differences to the best of their abilities.

More detail can be found on the next pages. This course outline gives an indication of the timing of the content for this course. It may be necessary for us to adjust the timetable during the semester – you will be updated via Learn if this happens and the newest version of the timetable will be shared with you via learn.

Term 2 Time table

			MID SEMESTER BREAK	
Monday		20-Apr	**15. Ecological systems (AP)**	
Tuesday		21-Apr	**17. Biogeochemical cycles and soil functions (CS)**	
6				
Wednesday		22-Apr		
Thursday		23-Apr	**18. Climate and biomes (AP)**	
Monday		27-Apr	**None - ANZAC Day**	Work on you Module 2 Essay - due 14th of May worth 23%. *This replaces Lab 5 and 6, the field trip assignment.*
Tuesday		28-Apr	**19. Time and geological records (CS)**	
7				
Wednesday		29-Apr		
Thursday		30-Apr	**20. Plate tectonics I (CS)**	
Monday		4-May	**21. Plate tectonics II (CS)**	
Tuesday		5-May	**22. Deformation - folds and faults (CS)**	
8				
Wednesday		6-May		
Thursday		7-May	**23. The fossil record (AP)**	
Monday		11-May	**24. Change in the Quaternary 1 (CS)**	
Tuesday		12-May	**25. Change in the Quaternary 2 (AP)**	
9				
Wednesday		13-May		1% Questionnaire
Thursday		14-May	**26. Biogeography 1 (AP)**	
Monday		18-May	**27. Biogeography 2 (AP)**	Essay and Questionnaire due
Tuesday		19-May	**28. Ecological change 1 (AP)**	Online practical exercises *(worth 2%)*
10				Stratigraphical principles applied
Wednesday		20-May		
Thursday		21-May	**29. Ecological change 1 (AP)**	
Monday		25-May	**30. Anthropogenic change 1 (AP)**	Practical exercises week 10 due
Tuesday		26-May	**31. Anthropogenic change 2 (AP)**	Online practical exercises *(worth 2%)*
11				Stratigraphical columns and correlation
Wednesday		27-May		
Thursday		28-May	**32. Wrap up lecture (AP/CS)**	
Monday		1-Jun		Practical exercises week 11 due
Tuesday		2-Jun		Online practical exercises *(worth 2%)*
12				Plate tectonics
Wednesday		3-Jun		1% Questionnaire
Thursday		4-Jun		Practical exercises and Questionnaire week 12 due
TBA			**EXAM**	Online quizzes close

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, they are not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact, e.g. lectures, tutorials, laboratories (Term 1)	30
Online contact hours, e.g. lecture resources and recordings, practical resources and internal assessment and exam (Term 2)	30
Non-contact Hours	
Self-directed learning, e.g. study, projects, test and internal assessment / exam preparation	90
Total Student Workload	**150**

Online Learning Activities

Formally registered students in this course will be able to access all online resources on the course *LEARN* site via http://learn.lincoln.ac.nz.

Other learning activities

For the geology part of the course there are reading resources from different sources for which links are online, the main one being "New Zealand geology: an illustrated guide" (Peter Ballance, 2009).

For the ecology part of the course there is a required digital textbook: "Principles of Biology" published by Nature/Macmillan. Although we will not be using the whole of this textbook it is also used in several other courses at Lincoln and we recommend that all students purchase a copy. For details on how to purchase this e-textbook email Adrian.Paterson@lincoln.ac.nz.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Outcomes covered	Key resources
Online Quiz 1[*1]	5%	Opens: Monday 17 Feb Closes: Day of exam	1,2	ALL
Online Quiz 2[*1]	5%	Opens: Monday 17 Feb Closes: Day of exam	3,4	ALL
Practical Internal Assessment	40%	See below	1-10	Lab manuals, lecture resources and online practical exercises.
	7%	**Module 1 – Rocks & Ecosystems –** Completed in Term 1[*2]. 2 x 1% questionnaire 1 x 5% quiz		
	26%	**Module 2 – History of Zealandia** 2% in lab assessment – Completed in Term 1[*2] 23% written assignment – Essay – Due date 14 May *(This replaces field trip assignment and related in lab assessment)* 1% questionnaire – Evaluation of Module 2		
	7%	**Module 3 – Evolution of Continents, Oceans & Life** 3 x 2% exercises in quiz form – *released on Monday, due by Thursday.* *(This replaces quiz and take home assignment)* 1% questionnaire – Evaluation of Module 3		
Final Exam	50%	TBA	1-10	Lectures, labs, textbook and recommended reading

[*1] **Quizzes**

Two online quizzes will be available during the semester; one on earth science related topics and one on ecology related topics. You will be able to take these quizzes as many times as you wish and your highest score will be used for assessment. Even after you've scored a high mark repeating the quizzes will help in your exam preparation.

[*2] **Practical internal assessment**

Overseas students who missed Module 1 will receive information on alternative assessment worth 7%.
Overseas students who missed the first assessment for Module 2 will be granted an aegrotat.

Penalties

Students who do not submit a reasonable attempt of the following items of internal assessment may be awarded a grade of NC (Not Complete): Essay Module 2.

In order to pass this course students must attain at least 40 percent in both the internal assessment (average over all assessments) and in the final examination and 50 percent or more in the course overall. A student may receive a grade of F (fail) for this course if these conditions are not met.

Mandatory Course Requirements

Participation in all parts of the online learning platform and completion of practical exercises and all assessment items are considered mandatory in this course. Please contact the examiner as soon as possible if you are unable to complete one of these components.

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations and Policies*.

Office Hours and Feedback Opportunities

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Numerous opportunities for feedback will be provided during the semester and we welcome any feedback through email (if you want your feedback to be anonymous to staff you can use the questionnaires at the end of each module or contact a student rep). We have an open email policy but given the current circumstances replies might not be instant, so if you need help don't leave it to the last minute. Contact information for staff is provided at the top of this course outline. There will be an opportunity to formally evaluate the course at the end of the semester.

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning can be accessed for any help you need through: http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

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Appeals Procedure

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C.2 Bachelor of Commerce Core Courses

Department of Global Value Chains and Trade
Faculty of Agribusiness and Commerce

BMGT116 Principles of Management
Semester 1, Block 1, 2020

Examiner/Lecturer	Ian Hooker **Room**: C212 **Building**: Commerce **Ph:** 03 423 0240 **Email:** anthony.brien@lincoln.ac.nz
Tutor/s	TBA
Guest lecturer/s	TBA
Course Prescription	The introduction to the basic functions of management: planning organising, leading and controlling.
Prerequisites	Nil
Recommended Preparation	Nil
Restrictions	BMGT110, COMM110

Course Aims and Learning Outcomes

Aims

The main aim of this course is to:

Provide students with a general overview of the primary functions of management which will encompass the definition and role of management, the understanding of the fundamental theories of management and simple analytical techniques employed in management.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

e) The key functional areas of management: planning, leading, organising and controlling.
f) How the functional areas interlink within the overall global supply chain (of business).
g) The nature of sustainable value creation and competitive advantage.

Skills

f) Analyse the competitive dynamics of an industry and the key forces that impact value chains using various tools.
g) Communicate in a professional manner.

Values

3 Managements' responsibility in balancing economic, environmental, social, and cultural factors.
4 The responsibility of business to all stakeholders in Value Chains.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week – commencing Monday	Topics / Module	Text Chapter	Notes
Innovative Management for a Changing World			
1 17 February 2020	The Changing World of Management	Chapters 01 and 02	
2 24 February 2020	The business and management environment and business corporate culture	Chapter 03	
3 02 March 2020	Managing in a global environment	Chapter 04	**Formal Quiz 01** Open 04 March 2020, 9.00am Closes 06 March 2020 5.00pm
4 09 March 2020	Business and management ethics, social responsibility and sustainable development	Chapter 05	**Individual Assignment 01 due noon, Monday 09 March 2020** Thursday 12 March is a Field Trip Day

Planning			
5 16 March 20	Managements role in business planning and goal setting	Chapter 07	
6 23 March 2020	Developing business strategy and implementation **and** Managerial decision making	Chapter 08 and 09	**Formal Quiz 02** Open 25 March 2020, 9.00am Closes 24 April 2020 5.00pm (Extension due to COVIT - 19
Mid Semester Break			
(repeat week 6) = 7 20 April, 2020	Developing business strategy and implementation **and** Managerial decision making	Chapter 08 and 09	**Formal Quiz 02** Open 25 March 2020, 9.00am Closes 24 April 2020 5.00pm (Extension due to COVIT - 19
Organising			
8 27 April 2020	Organising, Change and Innovation	Chapters 10 and 11	
9 04 May 2020	Managing Human Capital and Diversity	Chapters 12 and 13	
Leading			
10 11 May 2020	Leadership in organisations	Chapters 14 and 15	**Individual Assignment 02 due Noon Monday 11 May 2020** **Formal Quiz 03** Open 13 May 2020 9.00am Closes 15 May 2020 5.00pm
11 18 May 2020	Motivation	Chapter 16	
12 25 May 2020	Managing communication and teamwork in organisations	Chapter 17 and 18	**Group Assignment due Noon Monday 25 May 2020**
Controlling			
13 01 June 2020	Managing quality	Chapter 19	**Formal Quiz 04** Open 03 June 2020 9.00am Closes 05 June 2020 5.00pm

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including lectures, workshops, self-study material, independent reading of book chapters, interactive on-line material, group work, and office hours. Students are strongly advised to make full use of all available learning opportunities

Face-to-face Learning Activities

Lectures

Day	*Time*	*Room*
Monday	11.00-11.50am	TBA
Thursday	11.00-11.50am	TBA

Workshops / Labs

Day	*Time*	*Room*
Tuesday	11.00-11.50am	TBA

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Notes

Lecture notes via power points will be posted on LEARN. Some readings will be placed on the relevant LEARN site. Camtasia recordings will be made where possible and also placed on LEARN.

Resources

This course is supported by a text which is available from the University Bookshop or can be purchased as an e-text directly from the publisher. The text is:

Management in New Zealand, 2st edition, by Danny Samson, Bevan Catley, Viginia Cathro and Richard L Daft, Cengage Learning (2016), ISBN 9780170326650

Teaching on Field Trip Days

Face-to-face activities and office hours ***will*** be held on field trips days. If you are on a Field Trip, please ensue you listen to the lecture recordings on the LEARN site.

Assessment

Formal assessment items

Assessment	Weighting	Due date
On-line Quiz - 01	5%	Opens 04 March 2020, 9.00am. Closes 06 March 2020, 5.00pm.
Individual Assignment 01	15%	Noon, 16 March 2020
On-line Quiz - 02	5%	Opens 25 March 2020, 9.00am Closes 24 April 2020, 5.00pm
Individual Assignment 02	15%	Noon 11 May 2020
On-line Quiz - 03	5%	Noon, 13 May 2020, 9.00am Closes 15 May 2020, 5.00pm
Group Assignment	15%	Noon Monday 25 May 2020
On-line Quiz - 04	5%	Opens 03 June 2020, 9.00am Closes 05 June 2020, 5.00pm
Final Exam	35%	TBA
	100%	

Assessment Summaries

Assignment

Assignments are to be submitted by noon on the day stated in the Weekly Schedule above in drop box **TBA** in the Commerce Building Foyer. Assignments must also be submitted to Turnitin (on the Learn Site) by noon on the day they are due.

Final Examination

The final examination is two hours in duration. Material covered during lecture, self-study and online material, review material, assigned readings and supplementary material are examinable unless otherwise stated by the Examiner.

Penalties

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations*.

Office Hours and Feedback Opportunities

Office hours
Ian Hooker

Day	*Time*	*Room*

Students are welcome to drop-by the Examiner's office at other times (although they may not always be available), and to contact the Examiner to make an appointment at a mutually agreeable time. Towards the end of semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Guest lecturers

Professionals from a range of industry sectors will presented lectures on relevant and topical issues. The provision of guest lecturers is dependent upon availability of external individuals and may be affected by external circumstances.

Health and Safety off-campus

Field Trips: full details will be provided separately. Refer to the Code of Conduct for Trips, Tours and other External Activities.

Student Workload

The total student workload of 150 hours (200 hours for 600-level courses) in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact: - lectures, - tutorials	 24 12
Non-contact Hours	
Self-directed learning: - study, - projects, - test and exam prep	 72 36 27
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics statistics skills. See http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Faculty Student Liaison

The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact **Nicos Tescos** – he is here to listen to you and help. **Nicos Tescos** can be found in Orchard 001C or contacted on **Nicos.Tescos@lincoln.ac.nz.**

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support, Students' Association, Student Health, Counselling, and Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students' grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Department of Global Value Chains and Trade
Faculty of Agribusiness and Commerce

COMM 111 Introductory Statistics
January Summer School, 2020

Examiner and Lecturer	Dr Kathryn Bicknell **Room**: C205 **Building**: Commerce **Ph:** 423 0235 **Email:** kathryn.bicknell@lincoln.ac.nz
Course Prescription	An introduction to statistics, with an emphasis on practical applications and problem solving in Commerce.
Prerequisites	None
Restrictions	QMET103

You said, We did…

Changes made to this course as a result of student feedback.

Students said: "In-class exercises would be helpful", so in this summer session more time has been allocated to applied problem solving, with less time spent in formal lectures. Additional technical information will be available on-line, on-demand.

Students said "More Excel work would improve the course" so we have provided more opportunities to build your spreadsheet skills.

Course Aims and Learning Outcomes

Aims

The main aims of this course are:

To help students appreciate the important role that statistics plays in applied research and market analysis, and to teach students to use some of the most widely used statistical methods.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1. Understand how data is gathered to support business decision;

K2. Identify the range of graphical tools and descriptive statistics commonly used to summarise and display numerical information;

K3. Understand the concept of a probability distribution.

Skills

S1. Calculate and interpret probabilities;

S2. Estimate and interpret confidence intervals;

S3. Specify and test a statistical hypothesis, and interpret the results.

Values

V1. Appreciate how quantitative information can be used to support business decisions.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week	Topics
1	Exploratory Data Analysis and Probability
2	Random Variables and Probability Distributions
3	Statistical Inference: Sampling Distributions and Estimation
4	Statistical Inference: Hypothesis Testing (One population / sample)
5	Statistical Inference: Hypothesis Testing (Comparing Populations)
Final Exam	The final examinations for the Summer Session will be held on 11 and 12 of February. The exact time and place for the exam for this course will be announced closer to the date.

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including structured lectures, tutorial/workshops, self-study material, on-line material and office hours. Students are strongly advised to make full use of all available learning opportunities.

Face-to-face Learning Activities

Lectures and Workshops

Day	*Time*	*Room*
Monday	1.10 – 4.00 pm	B740
Tuesday	1.10 – 4.00 pm	B740
Wednesday	1.10 – 4.00 pm	B740
Thursday	1.10 – 4.00 pm	B740

NOTE: Some sessions may be run in a computer lab. Details will be provided via the webpage.

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Notes

Lecture notes will be posted on LEARN. It is important to note that the images shown in lectures may not be available in the PDFs of the notes, as copyright regulations prevent this in some instances. Some readings will be placed on the relevant LEARN site. Camtasia recordings will be made where possible and also placed on LEARN.

Resources

Selvanathan, E. A., Selvanathan, S. & Keller, G. (2017) *Business Statistics Abridged*, Australia, New Zealand Edition (7th ed.). Victoria, Australia: Cengage Learning.

Note that this book is available in both hard copy and as an e-text. Earlier versions of this book are available second-hand. You are advised to check with the Examiner about the suitability of earlier versions of the text.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered
Quizzes	10%	Various	S1; S2; S3
Good Faith Efforts	10%	Various	All
Test	20%	23 January	K2; K3; S1; S2; S3
Assignment 1	15%	17 January	All
Assignment 2	15%	5 February	All
Exam	30%	TBA	K2; K3; S1; S2; S3

Assessment Summaries

There is a range of assessment in the course. See below for details of each assessment item. Assessment will be returned with feedback as promptly as possible.

Quizzes

There are ten on-line quizzes to complete during the course. The quizzes will consist of a range of question types and are to be submitted via the course webpage. Quizzes contribute a maximum of ten percent (one percent each) of the final grade.

Good Faith Efforts

There will be five short pieces of work carried out in tutorials, termed Good Faith Efforts (GFEs). Each GFE is worth 2% towards your final grade. Collectively, the Good Faith Efforts will contribute a maximum of 10% towards your final mark.

Assignments

You will be asked to complete two problem-based, data-intensive assignments. The assignments are to be submitted via the 'drop box' on the course website by 10.00 p.m. on the dates specified above. Each assignment will contribute a maximum of 15 percent towards the final grade, for a total of 30 percent. They are designed to assess your ability to manage, analyse and interpret data within an applied context, and communicate the results of your analysis in writing. Detailed instructions will be made available on the course webpage.

Test

The test will be up to 90 minutes in duration and will be held during the regularly scheduled class time on 23 January. The test venues/rooms will be announced on the course webpage. The test will consist of a mixture of short answer/calculation and multiple choice. The test is closed book, but students will be allowed to bring one page of notes into the test room with them. The test contributes to a maximum of 20 percent towards your final grade.

Final Examination

The final examination is 3 hours in duration. Material covered during lecture, self-study and online material, review material, assigned readings and supplementary material are examinable unless otherwise stated by the Examiner. A review session for the final exam will be held during the final full week of the term. The venue and time will be announced in lectures.

Penalties

Students who do not submit a reasonable attempt of the following items of internal assessment may be awarded a grade of NC (Not Complete): Assignments and Test. In order to be awarded a pass grade in the course students must attain 50 percent or more in the course overall.

Mandatory Course Requirements

All of the internal assessment items in this course are highly recommended. Failure to submit any item could result in the student not being eligible to achieve a passing grade in this course. Students who anticipate not being able to submit a piece of internal assessment should discuss their circumstances with the Examiner.

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations*.

Office Hours and Feedback Opportunities

Office hours
Kathryn Bicknell

Day	*Time*	*Room*
M; Tue; Wed; Thur	By appointment	C205

Students are welcome to contact the Examiner to make an appointment at a mutually agreeable time. Towards the end of summer session students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact	
Lectures	20
Workshops / Tutorials	40
Non-contact Hours	
Self-directed learning	
Study	40
Assignments	20
On-line activities	15
Exam prep	15
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Faculty Student Liaison

The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact **Nicos Tescos** – he is here to listen to you and help. **Nicos Tescos** can be found in Orchard 001C or contacted on **Nicos.Tescos@lincoln.ac.nz.**

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support, Students' Association, Student Health, Counselling, and Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students' grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Department of Financial and Business Systems
Faculty of Agribusiness & Commerce

COMM 112 Financial Information for Business
Semester 1, Block 7, 2020 – COVID-19 updated

Examiner / Lecturer	Tracy-Anne De Silva **Room:** C218 **Building:** Commerce **Ph:** 423 0244 **Email:** tracy-anne.desilva@lincoln.ac.nz The best way to contact myself and others in the teaching team while the campus is closed is via email or phone.
Lecturer	Pam Benbow **Room**: C301 **Building**: Commerce **Ph:** 423 0251 **Email:** pam.benbow@lincoln.ac.nz
Lecturer	Azadeh (Azi) Nilipour **Room:** C222 **Building:** Commerce **Ph:** 423 0207 **Email:** azadeh.nilipour@lincoln.ac.nz
Lecturer	Rousseau Lötter **Room:** C114 **Building:** Commerce **Ph:** 423 0229 **Email:** Rousseau.Lotter@lincoln.ac.nz

Course Prescription	An introduction to financial information and its application in a business context.
Prerequisites	None
Recommended Preparation	None
Restrictions	ACCT 103

You said, We did…

Changes made to this course as a result of student feedback.

Students said "the printed book is great – everything is in one place," so we have added the class activities to the book, in addition to providing online editable versions of the activities. Students asked for material to be available earlier so we have uploaded all modules from the start of semester.

Course Aims and Learning Outcomes

Aims

The main aim of this course is:

To demonstrate how and why financial information is used to analyse, value, interpret and inform business activities.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1. Identify and source the main types of financial information including financial statements.
K2. Identify appropriate sources of business finance.
K3. Identify various approaches to budgeting.

Skills

S1. Explain the importance of liquidity and cash flow to a business.
S2. Evaluate business investment decisions using appropriate techniques, in particular those based on time value of money.
S3. Undertake financial statement analysis.

Values

V1. Appreciate the inter-relationships between financial information and techniques, and how they contribute to the management of a business.
V2. Appreciate the basic processes for learning in a tertiary setting.

Course Content

The modules and topics to be covered in this course are:

Stakeholders (Module 1)

- Information needs, uses, and sources
- Regulations
- Financial statements
- Relationship between financial statements
- Corporate responsibility
- Taxation

Cash Flow and Financing (Module 2)

- Cash is King! But what about profit?
- Depreciation
- Sources and uses of cash
- Managing cash flow and liquidity
- Sources of business finance
- Leverage

Performance and Budgeting (Module 3)

- Performance
- Performance rewards
- Budgeting
- Cash budgets
- Other budgets
- Analysing performance

Time Value of Money and Business Investment Decisions (Module 4)

- Risk and return
- Time value of money
- Investment appraisal
- Cost of capital
- Discounted cash flow (DCF) analysis
- Other applications of DCF analysis

Financial Statement Analysis (Module 5)

- Financial statement analysis
- Interpreting the numbers: Profitability
- Interpreting the numbers: Efficiency
- Interpreting the numbers: Financial stability and market tests
- Percentage analysis

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable. Note: The schedule has been updated as a result of COVID-19.

Week – commencing	Topics / Module
1 17th February	Introduction / Course Administration
2 24th February (28 March: Field Trip Day)	Module 1: Stakeholders
3 2nd March	Module 1: Stakeholders
4 9th March (12 March: Field Trip Day)	Module 2: Cash Flow and Financing
5 16th March	Module 2: Cash Flow and Financing
23th March	Mid Semester Break
30th March	
6th April	
13th April	
6 20th April	Module 3: Performance and Budgeting Assignment 1 help
7 27th April	Module 3: Performance and Budgeting
8 4th May	Module 4: Time Value of Money and Business Investment Decisions
9 11th May	Module 4: Time Value of Money and Business Investment Decisions
10 18th May	Module 5: Financial Statement Analysis
11 25th May	Module 5: Financial Statement Analysis
12 1st June	Course Review Exam Information Evaluations

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of learning opportunities for students including face-to-face class sessions, a range of online activities including quizzes, lessons, videos, and other activities. To succeed in the course students need to make full use of all available learning opportunities and come prepared to actively participate in the face-to-face and online class sessions. During class sessions students will work through a number of practical examples that explore how financial information is used in the business decision making process and support their learning of the course material. Summary notes for each topic, readings, and other learning resources are available on the course webpage. The summary notes are designed to supplement other learning activities and students are strongly encouraged to add their own notes. As the range of material offered is broader than what will be covered in face-to-face learning hours, students are expected to take responsibility for their own learning and work through examples and supplementary material in their private study hours.

Face-to-face Learning Activities – updated

Class sessions

There will be **two class sessions per week for each student**. All class sessions commence in week 1. Students need to register on the course webpage for one of the following groups. All students are to attend the Tuesday class sessions from 9.00 – 9.50 am in S1.

Note: Due to COVID-19, class sessions will now be held via Zoom. Details for joining Zoom can be found on the course LEARN page. Your first two class sessions will be via Zoom, the third weekly class session that was held prior to mid-semester break will be replaced with recordings that will be available on the course LEARN page.

Group	Day	Room	Time
Group A	Tues Wed	Zoom Zoom	9.00 – 9.50 am 9.00 – 9.50 am
Group B	Tues Wed	Zoom Zoom	9.00 – 9.50 am 10.00 – 10.50 am
Group C	Tues Wed	Zoom Zoom	9.00 – 9.50 am 11.00 – 11.50 am
Group D	Tues Wed	Zoom Zoom	9.00 – 9.50 am 12.00 – 12.50 pm
Group E	Tues Thurs	Zoom Zoom	9.00 – 9.50 am 9.00 – 9.50 am

Any updates to room locations will be notified on the course webpage.

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz

A vast number of learning resources are available on the course webpage, along with assessment activities. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Other learning activities

There is no prescribed textbook for this course. Summary notes, assessment checklists, key terms, readings, activities and other learning material are available on the course webpage. Some of this material is included in the Module chapter. Many of the pdf files including summary notes have been designed as editable pdf documents allowing students to add their own additional notes without the need to print. Students also have the option to purchase a printed copy of the Resource Handbook from the University Bookshop which contains each of the Module chapters (note that this service is unavailable during when the University campus is closed).

Students are also encouraged to access texts and databases available in the University Library in order to further their understanding of the topics covered in the course.

Teaching on Field Trip Days

Class sessions ***will*** be held on field trip days. Field trip days are after the mid-semester break are now considered normal teaching days.

Assessment

Formal assessment items – updated

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Due date	Weighting	Learning outcomes covered
Crosswords (five)	Various – see below	5%	K1, K2, K3, S1, S2, S3, V1, V2
Quizzes (five)	Various – see below	5%	K1, K2, K3, S1, S2, S3, V1, V2
Test (75 minutes)	March 20th, 2020	20%	K1, K2, S1, V1, V2
Assignment 1	May 5th, 2020 @ 12.00pm	10%	K3, V1, V2
Assignment 2	May 18th, 2020 @ 12.00pm	10%	S2, V1, V2
Assignment 3	May 29th, 2020 @ 12.00pm (submission) & June 2nd, 2020 @ 12.00pm (peer marking)	5%	S3, V1, V2
Final Exam	TBA	45%	K1, K2, K3, S1, S2, S3, V1, V2

Assessment Summaries

There is a range of assessment in the course. See below for details of each assessment item. Assessment will be returned with feedback as promptly as possible, and normally within two weeks.

Crosswords

There are five crosswords to complete during the course. The crosswords are due for completion by **5.00pm on Friday March 6th, Friday March 20th, Friday May 1st, Friday May 15th, and Friday May 29th, 2020**. Instructions are available on the course webpage and the crosswords are to be submitted via an online quiz on the course webpage. Crosswords contribute to a maximum of five percent (one percent each) of the final grade.

Quizzes

There are five quizzes to complete during the course. The quizzes are due for completion by **5.00pm on Friday March 6th, Friday March 20th, Friday May 1st, Friday May 15th, and Friday May 29th, 2020.** The quizzes will consist of a range of question types and are to be submitted via the course webpage. Quizzes contribute to a maximum of five percent (one percent each) of the final grade.

Test

The test is 75 minutes in duration and will be held on **Friday March 20th, 2020** at a time, and in a venue, to be announced in class and on the course webpage. The test contributes to a maximum of 20 percent of the final grade, and will assess material covered in Module 1: Stakeholders and Module 2: Cash Flow and Financing.

Assignment 1

Assignment 1 is to be completed individually and submitted by **12.00pm on Tuesday May 5th, 2020** to the online drop-box on the course LEARN page. Assignment 1 contributes to a maximum of ten percent of the final grade, and will primarily assess material covered in Module 3: Performance and Budgeting. Instructions will be made available on the course webpage.

Assignment 2

Assignment 2 is to be completed individually and submitted by **12.00pm on Monday May 18th, 2020** to the online drop-box on the course LEARN page. Assignment 2 contributes to a maximum of ten percent of the final grade, and will primarily assess material covered in Module 4: Time Value of Money and Business Investment Decisions. Instructions will be made available on the course webpage.

Assignment 3

Assignment 3 is to be completed individually and submitted by **12.00pm on Friday May 29th, 2020** online via the course webpage. Assignment 3 will also involve a peer-marking component which is to be completed by **12.00pm on Tuesday June 2nd, 2020**. Assignment 3 contributes to a maximum of five percent of the final grade, and will primarily assess material covered in Module 5: Financial Statement Analysis. Instructions will be made available on the course webpage.

Final Examination

The final examination is **two** hours in duration. Material covered during class sessions, summary notes, online activities, readings, and other learning material available on the course webpage are examinable unless otherwise stated by the Examiner. Exam information and review material will be available in week 12 of semester. The final examination will be open-book and held online via the course LEARN page.

Penalties

Students who do not submit a reasonable attempt at the following items of internal assessment may be awarded a grade of NC (Not Complete): Test, Assignment 1, and Assignment 2.

In order to be awarded a pass grade in the course students must attain 40 percent or more in the final examination and 50 percent or more in the course overall. A student may receive a grade of F (fail) for this course if he or she obtains a mark of 50 percent or more in the course overall, but obtains a mark of less than 40 percent in the final examination.

Mandatory Course Requirements

The following assessment items are mandatory: Test, Assignment 1, and Assignment 2. Failure to submit these items will result in the student not being eligible to achieve a passing grade in this course.

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations.*

Office Hours and Feedback Opportunities

The Examiner and Lecturers are available for support outside of class sessions. Students wishing to speak with one of the Lecturers should talk to them before or after class sessions or contact them by email for an appointment.

Towards the end of lectures students will be consulted about what additional support they require before exams. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. Contact information for staff involved in the course is provided at the top of this course outline. Students may give feedback in any format they feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). There will be an opportunity to formally evaluate the course at the end of the semester.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Class sessions	36
Non-contact Hours	
Completing online activities	48
Reading and preparation	36
Assessment	30
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Faculty Student Liaison

The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact Nicos Tescos – they are here to listen to you and help. Nicos Tescos can be found in Orchard 001c or contacted on nicos.tescos@lincoln.ac.nz

Advice and Support

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Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Collection of Data

To improve student learning, course lecturers and teaching assistants will collect data, including video, on the learning processes and outcomes of the course. Permission will be sought for this as it applies to each student.

Department of Global Value Chains & Trade
Faculty of Agribusiness & Commerce

ECON 113 Economies and Markets
Semester 1, 2020 - Block 4

Examiner / Lecturer	**Alan Renwick** **Room**: 202 **Building**: Commerce **Ph:** 3092 **Email:** alan.renwick@lincoln.ac.nz
Course Prescription	How economies and markets operate at the microeconomic and macroeconomic levels.
Prerequisites	None
Recommended Preparation	None
Restrictions	None

You said, We did

Changes made to this course as a result of student feedback.

Introductory lectures on using graphs in economics added

Learning Aims and Objectives

Aims

ECON 113 is a core requirement of many of the degree programmes offered at Lincoln University. Because it attracts students with a diversity of interests and backgrounds, ECON 113 will focus on the use of economics as a *tool* to understand the world around us. Students who successfully complete ECON 113 will understand the economising and exchange processes, be able to explain economic behaviour and identify the intended and unintended consequences of actions and policies, and critically examine the economic pros and cons of a range of current economic policies both in New Zealand and internationally.

ECON 113 is specifically designed to:

103. Introduce students to a range of microeconomic and macroeconomic principles that can be used by individuals and policy makers to address issues involving scarcity, choice, resource use, economic management and public policy.

104. Equip students with knowledge of how economic changes may affect individuals, firms and markets.

105. Apply this economic knowledge to finding private and public solutions to business, social and environmental problems.

Key learning objectives

Knowledge

K1 Define and explain the basic principles of economics and methods of economic analysis;

K2 Identify how economic principles can influence business activities and decision-making processes of individuals, firms, governments and society;

K3 Identify fundamental concepts of imports and exports as they apply to New Zealand.

Skills

S1 Apply basic economic principles to private and public management of business, environmental, and social problems;

S2 Apply the basic techniques of cost-benefit analysis to private and public problems, and make policy reECONendations on the basis of welfare maximisation.

Values

V1 Appreciate the trade-offs involved in the attempt to optimise outcomes for individuals and society as a whole;

V2 Understand the analysis/policy nexus: that economic policy should be based on analysis but is directed by values.

Indicative Course Content

Week – commencing	Topic	Assessment
1 17 February	Expectations, Economic thinking and International Trade	
2 24 February	Consumers and Demand	
3 2 March	Producers and Supply, Market Efficiency	
4 9 March	Elasticity	
5 16 March	Markets	
6 23 March	No Lectures	
30 March - 17 April Mid-semester		
All Lectures from this date will now be delivered on-line		
6 20 April	Production Economics and mid-term test	Mid-term test
7 27 April	Imperfect Competition, Public Goods and Environmental Economics	
8 4 May	NZ and Global Macroeconomy	
9 11 May	Growth, Economic Wellbeing and Inequality	
10 18 May	Inflation, Interest Rates and Monetary Policy	
11 25 May	Exchange Rates and Balance of Payments; Aggregate Supply and Demand	Briefing Paper
12 1 June	Government Spending, Taxes and Fiscal Policy	

Learning and Teaching Arrangements

Learning and teaching approach

The course will be taught using a lecture/seminar format in which concepts, issues, and analytical techniques will be introduced, explained and discussed as needed for each topic studied. Recommend readings (textbook and additional readings), practice problems (tutorials and additional problems), and tutor office hours will support these lectures/seminars.

Students are strongly encouraged to ask questions during class and participate in discussions. Attainment of the course objectives occurs only when students actively engage with the learning material, whether on their own or in a face-to-face environment. Students are encouraged and expected to utilise all available resources including supplemental readings, library materials, classmates, the lecturer and tutors to achieve course objectives at a desired performance level.

Face-to-face (on-line from 20th April) learning activities

Lecture times

Day	*Time*	*Room*
Monday	12:00 to 12:50	Face to Face Online
Tuesday	12:00 to 12:50	Face to Face Online
Thursday	12:00 to 12:50	Face to Face Online
Thursday*	15.10 to 1700*	Face to Face Online *

*when required

Tutorials

Days and times for tutorials will be announced during the first week of the semester. Students will be able to choose from many times.

Tutorials start in Week 2 of the semester.

Field trips

There are **NO** field trips in this course.

Office hours

Students wishing to meet with the lecturer outside of class times must arrange an appointment via email (alan.renwick@lincoln.ac.nz).

Tutors will hold regularly scheduled office hours. The timing and location of these office hours will be announced on the LEARN page.

Online learning activities

Formally registered students in this course will be able to access the course *Learn* site via http://learn.lincoln.ac.nz. This site will be a valuable resource for this course and students are expected to visit it regularly. All general information relating to the course as well as lecture notes, supplementary readings, recorded lectures, etc. will be available on-site during the semester.

Other learning activities

1) It is **essential** that students have access to the textbooks for the course.

Parkin & Bade (2018) Microeconomics/Macroeconomics MyLab Economics with Pearson eTexts : Pearson Australia
Hickson (2018), *The New Zealand Macroeconomy,* 2e Pearson.

2. It is also essential that students regularly access the course **Learn** site which will be updated frequently, and upon which the tutorial questions and recorded lectures will be posted.

Teaching on Field Trip Days

Lectures will **NOT** be held on field trip days. Tutorials and office hours **WILL** be held on field trip days. Any student who feels that they might be disadvantaged by this should contact the examiner so that alternative arrangements can be made.

Feedback opportunities

Feedback is important. Informal feedback is always welcome if it is constructive. If you have an issue about anything, speak up. You may give feedback in any format you feel comfortable with (e.g., in person, with a support person, through a class rep, via a note, or email). Students will have the opportunity to evaluate this course and the lecturer/tutors towards the end of the semester. Continuous feedback from students is encouraged and can be provided via email or face-to-face with the lecturer.

Assessment

Formal assessment items

Assessment	Due Date	Weighting	Learning objectives covered
Weekly Online Quizzes and Tutorial Exercises	Weekly	20%	K1,K2,K3,S1,S2,V1,V2
Economic Briefing Paper	22 May	15%	K1,K2,K3,S1,S2,V1,V2
* Term Test	23 April	25%	K1,K2,K3,S1,S2,V1,V2
* Final Exam	TBA	40%	K1,K2,K3,S1,S2,V1,V2

f) The weekly online quizzes and tutorial exercises are intended to provide students with an effective way to judge their preparedness for the test and exam. Students can take a quiz at any time over the period that the quiz is open online, and can attempt the quiz as many times as they want in order to maximise their marks. The 20% allocated to this assessment component will be calculated as the simple average across all weekly quizzes and tutorial exercises.

g) There will be a two hour term test covering the first six weeks of the course on 23rd April. The test will comprise multiple-choice, short answer questions and critical-thinking/analysis questions. The time and locations of this test will be announced in class and on the course website well in advance of the date.

h) The final exam will be three hours in length. The final exam will cover material across the entire course. The exam will comprise multiple-choice, short answer and critical-thinking/analysis questions. The time and locations of the exam will be announced in class and on the course website well in advance of the due date.

i) The Economic Briefing Paper is intended to get students thinking like an economist about a real world economic issue. More detail about this assessment item will be provided in class and on the course website well in advance of the due date.

***Students who perform better on the Final Exam than on the Term Test will automatically have their final grade calculated on the basis of a 0% term test and a 65% final weighting (rather than the normal 25/40 split). That is to say, students who improve their performance on the formal tests over the semester will be rewarded for their efforts.**

Mandatory course requirements

In order to be awarded a pass grade in the course students must attain 40 percent or more in the final examination and 50 percent or more in the course overall. A student may receive a grade of F (fail) for this course if he or she obtains a mark of 50 percent or more in the course overall, but obtains a mark of less than 40 percent in the final examination.

Late submission of assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations.*

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass. The following time-use guidelines are provided as an example of how the 150 hours might be allocated in this course:

Contact Hours	
Lectures and tutorials	48 hours
Time in assessment	6 hours
Non-Contact Hours	
Self-directed learning	46 hours
Preparation for assessment	50 hours
Total Student Workload	**150 hours**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.
http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Faculty Student Liaison

The Faculty of Agribusiness and Commerce has a Student Liaison – Nicos Tescos (Senior Tutor). The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact Nicos – he is here to listen to you and help. Nicos can be found in Orchard 001c or contacted on nicos.tescos@lincoln.ac.nz

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Appeals procedure

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Health and Safety off-campus

Refer to the Code of Conduct for Trips, Tours and other External Activities.

Department of Financial and Business Systems
Faculty of Agribusiness and Commerce

LWST 114 Introduction to Commercial Law
Semester 1, Block 1, 2020 COVID updated

Examiner / Lecturer	Amrapali (Pali) Macdonald **Room**: C012 **Building**: Commerce **Ph:** 03 423 0246 **Email:** Amrapali.Macdonald@lincoln.ac.nz The best way to contact me while campus is closed is via email or telephone.
Course Prescription	The legal framework; an introduction to business, contract, employment, privacy and property laws; the concept of agency and the nature of torts.
Prerequisites	None
Recommended Preparation	None
Restrictions	LWST 101

You said, we did…

Changes made to this course as a result of student feedback.

Further to student feedback, there will be some short videos of important case law added to the Learn page. There will also be Discussion Forums for all the topics to facilitate better understanding of the law.

Course Aims and Learning Outcomes

Aims

The main aims of this course are:

To develop an excellent foundation and a strong grounding in law to aid students as they encounter law again in upper level courses and in their working lives.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1. Discuss the importance of commercial entities managing relationships with the macro-environment as well as relationships with other businesses, human resources, and customers; and

K2. Describe/explain the basic elements of the law of contract, tort, employment, agency and property (including land and intellectual property).

Skills

S1. Investigate methods of extracting useful regulatory compliance information; and

S2. Conclude a course of action based on a strong grounding in law and appreciation of how commercial decisions can impact stakeholders.

Values

V1. Recognise the need to remain up-to-date with one's understanding of the legal environment of business.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week – commencing	Topic	Text Chapter
1 17th February 2020	Introduction to Law	1
2 24th February (28th February Field Trip Day)	Sources of New Zealand Law	3
3 2nd March	New Zealand Constitution The Law of Business Organisations	2 6
4 9th March (12th March: Field Trip Day) **TEST: Friday 13th March 2020** **12 noon – 1.30 p.m.**	Contract Law	4
5 16th March	Contract Law	4
6 Part I 23rd March (24th March: Field Trip)	Contract Law	4
30th March	**Mid-Semester Break**	
6th April		
13th April		
6 Part II 20th April	Contract Law Zoom Surgery	4
7 27th April (27th ANZAC Day)	Tort Law	10
8 4th May	Employment Law	12
9 11th May	Agency Law	5
10 18th May	Land Law	9
11 25th May	Intellectual Property Law	9
12 1st June	Revision	

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including lectures, self-study material, interactive online material, Peer Assisted Study Sessions (PASS) and office hours. Students are strongly advised to make full use of all available learning opportunities.

Face-to-face Learning Activities updated

Kick Start Sessions

Kick Start sessions for the week will be held on Monday mornings via Zoom.

Day	Time
Monday	9.00 a.m. via Zoom

Lectures

Lectures will be delivered via **Panopto recordings**, which will be available on the Learn page.

Zoom Topic Surgeries

Surgeries, via Zoom, will be held every Friday, where students can log-on and ask any questions related to the lecture recordings that have been uploaded on Learn that week.

Day	Time
Friday	12 noon – 2 p.m. via Zoom

Peer Assisted Study Sessions (PASS)

Further information about the PASS will be provided in lectures and on the course LEARN page.

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Course material and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Slides

Lecture slides will be posted on LEARN. It is important to note that the images shown in lectures will not all be available in the PDFs of the notes, as copyright regulations prevent this. Some readings will be placed on the relevant LEARN site. Panopto lecture recordings will be available on Learn.

Short Case Law Videos

Short case law videos will also be posted on the Learn page.

Discussion Forums

There will be Discussion Forums on Learn based on all the ten topics. Students are urged to participate in the forums and pose questions and reply to questions posed by the lecturer and fellow students.

Zoom Topic Surgeries

There will be topic related surgeries via Zoom every Friday, where students can log-on and ask any questions related to the topic that has been taught that week. These sessions will be recorded.

Textbook Required

Miller & Barber (2019) Understanding Commercial Law, (9th Ed),
LexisNexis ISBN 978-0-94751-494-5

Textbook Recommended

Hubbard, J., & Smith, N. (2017). *Business law in New Zealand: an introduction*. Edify Ltd.

PASS

We have Peer Assisted Study Sessions (PASS) which are one hour directed study sessions led by a senior student who has successfully done this course before. It is strongly recommended that students attend PASS. Sessions will be held online and details will be posted on the LEARN page.

Library Resources

Some copies of the textbooks are available in the library. You will also need to make use of our library's electronic databases https://ltl.lincoln.ac.nz/category/law/?orderby=title&order=ASC

Assessment updated

Formal assessment items

Assessment	Weighting	Due date	Learning outcomes covered
Test covering the **first four** topics: 1. Introduction to Law; 2. Sources of New Zealand Law; 3. New Zealand Constitution; and 4. Laws of Business Organisations.	25%	Friday 13th March 2020	K1 and V1
Online Quizzes	10 x 1%=10%	Friday 5th June 2020 @ 10.00 p.m.	S1, S2 and V1
Six Online Problem Questions with Multiple-Choice Answers	6x2.5%=15%		S1, S2 and V1
Final Exam covering the **last six topics only**: 5. Contract Law; 6. Tort Law; 7. Employment Law; 8. Agency Law; 9. Land Law; and 10. Intellectual Property Law.	50%	TBA	K2 and V1

Assessment Summaries

Online Quizzes (10%)

Each of the ten topics has an online quiz associated with it. The questions of each online quiz are drawn from the database of questions related to the chapters the quiz is examining. When a student attempts an online quiz they are provided with an individual, customised quiz (from the question database).

Therefore, no two online quizzes are the same. Students will have ***one*** attempt to answer the questions, and it will be Open-Book. The online quizzes will open on the first day of the semester and close on ***Friday 5th June 2020 at 10.00 p.m***.

Six of the topics also have problem questions (PQ) associated with them. Students will have ***two*** attempts to answer the questions, and it will be Open-Book. The PQs will open on the first day of the Semester and close on ***Friday 5th June 2020 at 10.00 p.m.***

Test (25%)

The test will cover the following **four** topics:

Introduction to Law;

Sources of New Zealand Law;
New Zealand Constitution; and
Laws of Business Organisations.

It will be held **on Friday 13th March 2020,** commencing at 12 noon. The venue will be advised nearer the time. It will be of one and a half hours duration.

Final Exam (50%)

The final exam will be held online and will be of one and a half hours duration. It will be out of 50 marks, not 100, as previously stipulated. The examination date is to be advised. The exam will cover the following **six topics only**:

Contract Law;
Tort Law;
Employment Law;
Agency Law;
Land Law; and
Intellectual Property Law.

Penalties

Students who do not submit a reasonable attempt of the following items of internal assessment may be awarded a grade of NC (Not Complete): Problem Questions and Test.

Mandatory Course Requirements

Students are required to complete the six Problem Questions and sit the Test and Examination.

Late Submission of Assessment

The ten online Quizzes and the six Problem Questions will close on ***Friday 5th June 2020 at 10.00 p.m.*** and will not be re-opened. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations.*

Office Hours and Feedback Opportunities updated

The examiner can be contacted via email or telephone. The examiner will endeavour to reply within 24 hours during week days.

Towards the end of semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Lectures	36
Non-contact Hours	
Self-directed learning: Discussion Forums; Online assessments; PASS; Study - test and exam prep; and Time in test & exam	 20 10 12 67.5 4.5
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Academic and Career Skills team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies, career planning and job searching. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, employment and mathematics / statistics skills.

To find out more, log into the website at http://ltl.lincoln.ac.nz or visit Library Teaching and Learning in

Ivey Hall. For in-depth questions, book an appointment (via the website) or come to one of our daily "drop ins" - Monday to Friday 10.30-11.30am.

Faculty Student Liaison The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact **Nicos Tescos** – he is here to listen to you and help. **Nicos Tescos** can be found in Orchard 001C or contacted on **Nicos.Tescos@lincoln.ac.nz.**

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Appeals Procedure

The appeals framework is designed to enable students' grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND
New Zealand's specialist land-based university

Department of Global Value Chains and Trade
Faculty of Agribusiness and Commerce

MKTG 115 Principles of Marketing
Summer school 2020

Examiner/Lecturer

Ron Cuthbert
Room**: 313**
Building**: Commerce**
Ph: **022 505 6243**
Email: **ron.cuthbert@lincoln.ac.nz**

Restrictions	COMM 202, MKTG 101, MKTG 201

Course Aims and Learning Outcomes

Aims

Students in this course will understand how products can contribute to the well-being of both the business behind the product and its customers.

Learning outcomes

After successfully completing this course, students will be able to:

Knowledge

K1 Understand and develop proficiency in the basic language of marketing.

K2 Comprehend a broad and coherent knowledge of foundational marketing theories, practical principles, and processes.

K3 Recognise the role marketing plays in the operation of the firm.

K4 Recognise principles of good practice in marketing and the risks of bad practice.

K5 Understand the nature of the controllable and uncontrollable environments of marketing.

K6 Comprehend marketing's potential contribution to daily activities and social well-being.

Skills

S1 Divide markets into segments and determine positioning possibilities for products within the targeted segments.

S2 Develop the ability to identify the components of marketing thought and practice and their application in the marketplace.

Values

V1 Embrace the impact of marketing decisions on the well-being of customers and other stakeholders, including the natural environment and society.

V2 Recognise the positive contribution marketing makes to everyday life in society.

V3 Understand the negative consequences that "bad practice" marketing can produce.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week	Date	Day	Topics
1	Jan 07	Tuesday	Introduction to the course. The Marketing Process
	Jan 09	Thursday	Consumers and Buying Behaviour
2	Jan 14	Tuesday	Market Analysis
	Jan 16	Thursday	Customer Driven Marketing- Segmentation, Targeting, Positioning
3	Jan 21	Tuesday	Products and Services
	Jan 23	Thursday	Test
4	Jan 28	Tuesday	Pricing, and product Development: Team assignment tutorial
	Jan 30	Thursday	Promotion Mix
5	Feb 04	Tuesday	Team Presentation
	Feb 07	Friday	Team Presentations

Learning and Teaching Arrangements

Learning and Teaching Approach

Course content and complexity - the level of this course is not determined by the complexity of the economic concepts covered. However, students are expected to be able to apply fundamental economic concepts in the process of analyzing and solving complex business problems. It is the advanced development (and assessment) of skills such as conceptual thinking, abstraction, analytical reasoning and decision-making that make this a 600-level course.

Teaching and assessment methods - teaching methods will involve: case studies and explorations, presentations [individual/team] that synthesize information to the point of an argument for or against a certain course of action. Assessment will involve grading of presentations, individual/ group assignments and tests.

Independence and maturity expected of students - students within this course will enter with a B grade average undergraduate degree, therefore there is an expected level of academic maturity and the ability to work both independently and within teams where ideas and concepts will be argued to demonstrate critical thought.

Face-to-face Learning Activities

Lectures

Day	*Time*	*Room*
Tuesday	9.00am – 12:00pm	B3
Thursday-except Friday Feb 07	9:00am - 12:00pm	B3

Class times include tutorials:

Online Learning Activities

A text is required for the course. Principles of Marketing 7e Armstrong, Adam, Denize, and Kotler ISBN 9781488611841
The ebook is available through Pearson Education

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Notes

Some readings will be placed on the relevant LEARN site

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered
Assignment 1	20%	TBA	*K1, K2, K3, S1, S2, V1*
Test 1	30%	Jan 23	*K1, K2, K3, S1, S2, V1*
Class participation	10%		*K1, K2 ,K3, S1, S2, V1*
Assignment 2[Team]	40%	TBA	*K1, K2, K3, S1, S2, V1*

Assessment will be marked with feedback provided as promptly as possible.

Assessment Summaries

Assignments

Assignments are to be submitted through a drop box on the Learn page. Assignments are to be completed individually, unless stated otherwise, e.g. a group/ team based assignment. Instructions will be made available on the course webpage.

Tests

One test of 120 minutes in duration will be held during lecture time as outlined in the assessment table above, unless advised otherwise. Material covered during lecture, self-study and online material, review material, assigned readings and supplementary material are examinable unless otherwise stated by the Examiner. It will be important to demonstrate critical thinking and a broad understanding of concepts/ content and applicability in completing the test. The test will be closed book and students will be provided with a clean copy of any relevant case material, once they are in the test venue.

Penalties

Students who do not submit a reasonable attempt of the following items of internal assessment may be awarded a grade of NC (Not Complete): Assignments and Tests.

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are

submitted after the due date and time will be awarded a mark of zero. University regulations apply for tests as they do for final examinations.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiary. Attention is drawn to the *Universal Course Regulations*.

Office Hours and Feedback Opportunities

Office hours
Ron Cuthbert

Day	*Time*	*Room*
Monday	By appointment	C 313
Wednesday	By appointment	C 313

Students are welcome to drop-by the Examiner's office at other times (although they may not always be available), and to contact the Examiner to make an appointment at a mutually agreeable time. Towards the end of semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format they feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Guest lecturers

Professionals from a range of industry sectors may present lectures on relevant and topical issues. The provision of guest lecturers is dependent upon availability of external individuals and may be affected by external circumstances.

Student Workload

The total student workload of **100 hours** in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 100 hours may be allocated in this course:

Contact Hours	***Total hours***
Face to face contact, e.g. lectures, tutorials, field trips, exams [class sessions]	36
Non-contact Hours	
Self-directed learning, e.g. study, projects, test and exam prep [Reading – c.25; On-line activities – c. 14; Assessment – c.25]	64
Total Student Workload	**100**

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C.3 Bachelor of Agriculture Core Courses

LINCOLN UNIVERSITY
COURSE OUTLINE
FACULTY OF AGRICULTURE AND LIFE SCIENCES

AGRI 393

Agricultural Practicum

Semester 1, 2020 - Block 5

Examiner:

Prof Leo Condron
Room B220
Leo.Condron@lincoln.ac.nz

Principle Lecturers/Assessors:

Dr Racheal Bryant
Room NRE168
Racheal.Bryant@lincoln.ac.nz

Dr Omar Al-Marashdeh
Room NRE163
Omar.Al-Marashdeh@lincoln.ac.nz

Associate Prof Jim Moir
Room B122
Jim.Moir@lincoln.ac.nz

Prof Derrick Moot
Room FRC 103
Derrick.Moot@lincoln.ac.nz

Tutors:

Judith Butel
Room B226
Judith.Butel@lincoln.ac.nz

Mr Roger McLenaghen
Room B127
roger.mclenaghen@lincoln.ac.nz

Prescription, Course Aim and Learning Outcomes

Prescription. Development and extension of knowledge and information obtained during the compulsory practical work requirement of the Bachelor of Agriculture and Bachelor of Agricultural Science degrees.

Prerequisites: 5 x 200 level courses.

Restriction: Restricted to BAgr and BAgrSc students to be taken in Year 3 (BAgr, BAgrSc) or Year 4 (BAgrSc) of their degree.

Aim. To provide students with a range of opportunities to enable them to extend their knowledge and understanding of issues related to contemporary New Zealand agriculture, including those relating to effective and efficient management of key feed and nutrient resources.

Learning Outcomes
Knowledge and Skills

Knowledge

K1. Describe and discuss research that has been conducted on a specific research topic which is relevant to New Zealand agriculture in the form of a literature review.

Skills

S1. Use data on feed supply and livestock collected from their practical work farm(s) to model a feed budget using FARMAX and investigate the impact of a specific change in management.

S2. Use data on soil resources, fertility and production collected from their practical work farm(s) to model a nutrient budget using OVERSEER and investigate the impact of a specific change in management.

Values

V1. Show commitment to the fundamental importance of the interdependence between research and scientific knowledge in agriculture**.**

Contributions of this course to the graduate profile

Attribute	How it is achieved
Describe and explain the philosophical, scientific and ethical principles underlying science research.	Literature appraisal.
Locate, evaluate and use information in a range of contexts.	Literature appraisal.
Extrapolate from knowledge and principles to solve new problems.	Feed planning and nutrient budget projects.
Demonstrate critical thinking by weighing, evaluating and integrating new information.	Feed planning and nutrient budget projects.
Be organised and manage time and resources effectively and efficiently.	Literature appraisal, feed planning and nutrient budget projects.

Learning and Teaching Arrangements

Compulsory Lectures [5 hours]

1.	Monday 17	February	1.10-2.00	C 1	Condron	Introduction
2.	Monday 24	February	3.10-5.00	C 2	Moot	Literature Appraisal
3.	Monday 02	March	1.10-2.00	C 1	Al-Marashdeh	Feed Planning
4.	Monday 20	April	1.10-2.00	C 1	Moir	Nutrient Budget

Students will select one of two streams for the compulsory computer laboratories:

Stream 1

Compulsory Computer Laboratories [15 hours]

1.	Friday 06 March	2.10-3.00	D3-D4	Al-Marashdeh	Feed Planning
2.	Monday 09 March	2.10-4.00	D3-D4	Al-Marashdeh	Feed Planning
3.	Friday 13 March	2.10-3.00	D3-D4	Al-Marashdeh	Feed Planning
4.	Monday 16 March	2.10-4.00	D3-D4	Al-Marashdeh	Feed Planning
5.	Monday 20 April	2.10-4.00	D3-D4	Butel	Nutrient Budget
6.	Friday 01 May	2.10-3.00	D3-D4	Butel	Nutrient Budget
7.	Monday 04 May	2.10-4.00	D3-D4	Butel	Nutrient Budget
8.	Friday 08 May	2.10-3.00	D3-D4	Butel	Nutrient Budget
9.	Monday 11 May	2.10-4.00	D3-D4	Butel	Nutrient Budget
10.	Friday 15 May	2.10-3.00	D3-D4	Butel	Nutrient Budget

Stream 2

Compulsory Computer Laboratories [15 hours]

1.	Friday 06 March	3.10-4.00	D3-D4	Al-Marashdeh	Feed Planning
2.	Monday 09 March	4.10-6.00	D3-D4	Al-Marashdeh	Feed Planning
3.	Friday 13 March	3.10-4.00	D3-D4	Al-Marashdeh	Feed Planning
4.	Monday 06 March	4.10-6.00	D3-D4	Al-Marashdeh	Feed Planning
5.	Monday 20 April	4.10-6.00	D3-D4	Butel	Nutrient Budget
6.	Friday 01 May	3.10-4.00	D3-D4	Butel	Nutrient Budget
7.	Monday 04 May	4.10-6.00	D3-D4	Butel	Nutrient Budget
8.	Friday 08 May	3.10-4.00	D3-D4	Butel	Nutrient Budget
9.	Monday 11 May	4.10-6.00	D3-D4	Butel	Nutrient Budget
10.	Friday 15 May	2.10-3.00	D3-D4	Butel	Nutrient Budget

Streams 1 and 2

Optional Computer Laboratories [additional laboratories may be scheduled]

1.	**Tuesday 03 March**	**1.10-2.00**	**L131**	**Al-Marashdeh**	**Feed Planning**
2.	**Thursday 05 March**	**1.10-2.00**	**L131**	**Al-Marashdeh**	**Feed Planning**
3.	**Tuesday 10 March**	**1.10-2.00**	**L131**	**Al-Marashdeh**	**Feed Planning**
4.	**Thursday 12 March**	**1.10-2.00**	**L131**	**Al-Marashdeh**	**Feed Planning**
5.	**Tuesday 17 March**	**1.10-2.00**	**L131**	**Al-Marashdeh**	**Feed Planning**
6.	**Thursday 19 March**	**1.10-2.00**	**L131**	**Al-Marashdeh**	**Feed Planning**
7.	**Tuesday 24 March**	**1.10-2.00**	**L131**	**Al-Marashdeh**	**Feed Planning**
8.	**Thursday 28 March**	**1.10-2.00**	**L131**	**Al-Marashdeh**	**Feed Planning** **Nutrient**
9.	**Tuesday 28 April**	**1.10-2.00**	**L131**	**Butel**	**Budget** **Nutrient**
10.	**Thursday 30 April**	**1.10-2.00**	**L131**	**Butel**	**Budget** **Nutrient**
11.	**Tuesday 05 May**	**1.10-2.00**	**L131**	**Butel**	**Budget** **Nutrient**
12.	**Thursday 07 May**	**1.10-2.00**	**L131**	**Butel**	**Budget** **Nutrient**
13.	**Tuesday 12 May**	**1.10-2.00**	**L131**	**Butel**	**Budget** **Nutrient**
14.	**Thursday 14 May**	**1.10-2.00**	**L131**	**Butel**	**Budget**

Teaching on Field Trip Days

Compulsory lectures and computer laboratory classes will NOT be held on designated field trip days (see timetable).

Feedback

Student feedback is welcomed at any time of the course. Students are advised to seek help early if they are having difficulties with this course.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours might be allocated in this course:

Contact hours	Lectures	5 hours
	Computer Laboratories	29 hours
Non-contact hours	Literature Appraisal	44 hours
	Feed Budget Project	35 hours
	Nutrient Budget Project	35 hours
		150 hours total

Assessment

Formal Assessment Items

Assessment	Due Date	Weighting %
Feed Planning Report	24 April 2020	35%
Literature Appraisal	01 May 2020	30%
Nutrient Budget Report	22 May 2020	35%

NOTE:
Students must complete all three modules in order to gain an overall pass for AGRI 393.
Late assignments will have marks deducted at a rate of 10% for 1-7 days overdue, 20% deducted if 8-14 days overdue and so on [this does NOT apply when a student has been granted an extension].

Course Content

Introduction

The first compulsory lecture on Monday 17 February, presented by Prof Condron, will describe and discuss the overall rationale, structure, and management of the course, including computer laboratory stream allocation.

Literature Appraisal [30%]

Nineteen Lincoln University academic staff members who are actively engaged in agricultural research have provided a brief profile of their specific research interests and expertise, as outlined below.

Students are required to consider these in relation to topics linked to technical aspects of their on-farm practical work that they are interested in exploring in further detail in the form of a critical literature review.

Students are required to email Prof Condron by 12noon on Wednesday 19 February to indicate which staff member they would like to work with on their literature review - students should provide at least FOUR options in order of preference.

Prof Condron will then allocate students to staff members and notify staff and students by email on or before Friday 21 February.

The relevant staff member will then arrange to meet with their allocated students as soon passible to discuss specific literature review topics, and arrange a schedule of progress meetings/emails.

Prof Moot will deliver a 2 hour lecture on Monday 24 February (Commerce C2, 3.10-5.00pm) entitled "Science – and how to review it". This will explain aspects relating to the collation, interpretation, and organisation of information required for a critical literature review (see information on content and marking schedule below).

Students should submit their appraisal to the relevant academic staff member on or before 4.30pm on Friday 01 May.
The Course Examiner, Prof Condron, must formally approve any extension beyond 01 May.

Students will receive the mark for their appraisal by Monday 11 May.

Academic Staff Agricultural Research Profiles

Assoc Prof Mitchell Andrews (mitchell.andrews@lincoln.ac.nz):

Crop plant-microbial interactions.
Crop legume rhizobia symbioses.
Crop nutrition.
Direct effects of increased atmospheric carbon dioxide concentration on crops.
Crop nitrogen use efficiency.

8. *Pasture species, cultivars and their management.*
9. *Annual forage crop options and their management.*
10. *Effects of multi-species pasture mixtures.*
11. *Environmental drivers of pasture and forage crop production. Dr Racheal Bryant (racheal.bryant@lincoln.ac.nz):*
12. *Diet manipulation to reduce nitrogen intake and urine nitrogen losses.*
13. *Managing nitrogen loss in dairy farm systems.*
14. *Animal behaviour and welfare.*

9 *Mechanisms and measurement of solute transport in soil.*
10 *Mitigation of nitrate leaching losses from soil.*
11 *Soil physical conditions and plant growth.*

Understanding carbon and nitrogen cycling processes in agricultural soils, and potential climate change
effects.

- *Using stable isotope approaches to determine the fate of fertilizers and excreta in agricultural soils.*

v *Determining nitrous oxide emissions from agricultural systems and methods for their mitigation . Prof Leo Condron (leo.condron@lincoln.ac.nz):*

w *Sustainable inputs and utilisation of phosphorus in agriculture.*
x *Role and function of biology in determining nutrient availability in soil-plant systems.*
y *Soil fertility management in organic farming systems.*
z *Soil fertility management in regenerative agriculture systems.*

- The impact of extreme weather events on the provision of ecosystem services .
  Adaption strategies for climate resilient agriculture.
  Agronomic and environmentally sustainable use of phosphate fertiliser .
  Climate related impacts on nutrient cycling and water quality.

Dr Jim Gibbs (jim.gibbs@lincoln.ac.nz):

- *Dairy cow and heifer nutrition – the how does a NZ pasture diet impact rumen function and production.*

106. *Fodder beet grazing systems for beef, sheep and dairy sectors: nutrition of high production crop feeding.*
107. *Calcium and phosphorus nutrition in fodder beet fed livestock systems of NZ.*
108. *Feeding targeted supplements to grazing livestock to enrich meat and milk with omega 3 lipids.*

3. *Plant physiology.*
4. *Crop-environment interactions.*
5. *Plant stress responses.*
6. *Plant improvement.*

j) *Nitrogen cycling in agroecosystems.*
k) *Nitrate leaching and mitigation in agroecosystems.*
l) *Nitrous oxide emissions and mitigation in agroecosystems.*

Dr Andrew Greer (andrew.greer@lincoln.ac.nz):

b) *Control of gastrointestinal nematodes in livestock.*
c) *Ewe nutrition and tissue reserves.*
d) *Incorporation of EID into sheep farming systems.*
e) *Lamb growth and production.*

c) *Strategic grazing management for environmental protection.*
d) *Cattle nutrition and grazing management in high country grasslands.*
e) *Livestock production systems design.*
f) *Strategic grazing and nutritional management of farmed deer.*

3 *Wool production.*
4 *Molecular genetics of livestock species.*
5 *Animal breeding.*
6 *Sustainable livestock production systems. Assoc Prof*
Eirian Jones (eirian.jones@lincoln.ac.nz):
7 *Soil Borne plant diseases: epidemiology and integrated control strategies.*
8 *Application of beneficial microbes for controlling plant disease/improving soil health.*
9 *Potential of brassica bio fumigants crops as a management strategy for control of soil borne diseases/nematodes.*

Animal Breeding and Genetics, particularly animal reproduction body growth and composition.
Application of advanced animal breeding techniques.
Use of RFID to improve individual animal productivity and efficiency.
Performance recording systems.
Evaluation of cultivar-novel endophyte combinations for live weight gain.

Management strategies to reduce nitrogen loss from dairy systems.
Wintering systems: effect on performance and nitrogen loss of non-lactating dairy cows.
Animal behaviour and welfare.
Restricting time at pasture: effect on performance and grazing behaviour of dairy cows. Dr Thomas Maxwell (tom.maxwell@lincoln.ac.nz):
Pasture options for reduced nitrate leaching.
Pasture persistence.
Hill and High country pasture ecology.

Nutrient cycling in grassland agriculture.
Soil acidity issues in high and hill country.
Soil fertility/ plant growth relationships.

Dryland pasture production including the use of cocksfoot, tall fescue and annual legumes.
Lucerne and sub clover grazing and management.
Climate change impacts for pastoral agriculture in New Zealand.
Annual crop production (wheat barley, grass seed, etc.).

Literature Appraisal - content

The requirements for this formal review so that a grade of A or better may be achieved are listed below.

* Students will produce a thorough, CRITICAL and professional review of a topic which is related to soil, plant or animal aspect(s) of their practical work.
* Original peer reviewed sources should be used rather than popular articles or other reviews. Referenced materials should at least total 10-15 papers if they are well selected from key publications.
* Quantitative examples should be presented in the script by discussion of figures and tables.
* Information sources should be cited by author's name and year in the text and in the captions of tables and figures, but in the reference section a detailed reference should be listed including the authors names in full, the article title, the year of publication, the journal or resource name and the volume and page numbers**.** Note that the sources of all tables and figures must be given in the caption or heading, if copied directly or if adapted for purpose.
* All reviews should have a **Summary** at the beginning, before the **Introduction,** make extensive use of headings and sub-headings and have clear **Conclusions** at the end. The review should be 2000-3000 words in length excluding the tables, figures and reference section.
* For presentation and writing style, refer to papers in recent Journal of the NZ Grassland Association, or NZ Journal of Agricultural Research as models to follow.
* Use the marking schedule on the following page as a guide to ascertain the relative value given to each section of your review.

Literature Appraisal - Marking schedule

Title and Summary: (including student's name and location (i.e. course and year) Title should be informative, brief, perhaps assertive (less than 16 words). In Summary, briefly state the aim of the review, the range of literature covered, the main conclusions and the areas where information may be lacking (less than 200 words).

Introduction:

Background to the topic, set in context of New Zealand agriculture and the specific farm(s) worked on. Refer to 1-2 of the main authors in the general area.

In last paragraph of Introduction define the scope of your review. State what is covered and what is not covered. Indicate the main topics covered within the body of review. State the aim of the review (e.g. to search literature to understand why cocksfoot is summer green/drought tolerant). **/5**

Body of Review:

At least three topics/headings covered in depth with **quantitative** examples used (e.g. tables/figures). Make sure you refer to the tables/figures in the text, highlighting key numbers and trends. **/15**

Critical Comment:

Within the body of your review indicate the range of geographical/climatic/farming systems covered in the literature: limitations of the research (e.g. short term studies or glasshouse pot trials only, or lack of animal production data). Describe any limitations in the experimental design or techniques used, any alternative interpretations of the results and any flaws in the conclusions or arguments sustained. Describe if you think further work is required. **NOTE:** This is **not** a separate heading. Critical comments should be made where appropriate throughout the review script. **/5**

Conclusions:

Main points concisely stated with a strong reference back to the aims stated in the last paragraph of the **Introduction.** It may also include implications of the information presented and describe any need for further work. **/5**

References:

Correct citation in script and correct reference style in the list. Pattern to adopt is as for the Journal of New Zealand Grassland Association in recent volumes. **NOTE**: Sensible selection of key references is considered when allocating marks to the body of the review. Alternative styles are acceptable, but consistency throughout is expected. Most importantly, the references must be credible scientific references. **/5**

Presentation:

Presentation and setting out, use of headings, tables, figures, paragraphing, correct tense, grammar, spelling, care with proof reading, table and figure headings and citing their sources are very important.

Synthesis:

An important consideration for a review is synthesis of the material and paraphrasing when using literature. Copying from sources is plagiarism and can result in severe penalties . The markers wil be looking for your ability to sustain a well justified scientific narrative and use references to support your ideas.

/5

Feed Planning Project [35%]

Students are required to submit a completed data form to Dr Al-Marashdeh by 4.30pm on Friday 28 February (SEE BELOW).
Compulsory Lecture: Monday 02 March, 1.10-2.00, Commerce C1 – Dr Al-Marashdeh.

Students will become competent users of a commercial tool used to analyse dairy farm systems at a strategic level. Students will apply knowledge of biological first principles to test and recommend alternative farm practises to improve productivity and profitability for a dairy farm familiar to them.

Using a farm they are familiar with from their Practical Work placement, students will use a selected feed budgeting tool (FARMAX) to assess the current management of seasonal feed supply and feed demand. Using the same budgeting tool, students will perform a farm system review using the existing farm model to assess potential improvements in productivity and profitability.

The computers situated in the landscape building and library will have the FARMAX software installed, and students will be able to use FARMAX outside of the computer laboratory times.

Students will submit a report by 4.30pm on Friday 24 April.

AGRI 393 Agricultural Practicum - 2020

FARMAX feed planning project

Dairy Farm Set-up Form

In order to set up your own farm in FARMAX you will need to complete the information in following series of tables. The data you include should represent the average values over recent history of the farm. The information you gather on the farm relates to feed supply and demand, and how this is managed. The information marked with an asterix (*) is essential in order to carry out the exercise. The remaining boxes may make the set up process easier for you – but is not critical. ***You will need to collect this information before we start the FARMAX module and hand in a hard copy to the box outside Dr Al-Marashdeh's office (NRE1-163) no later than 4:30 pm Friday 28 February.*** If you don't think you have that information but have worked on a dairy farm, then you will need to contact your former employee to help you fill in the form. If you have never worked on a dairy farm, and don't know any dairy farmers then you will need to contact me as soon as possible (omar.al-marashdeh@lincoln.ac.nz).

Farm information

Farmers Name*	
Farmers Email or contact number*	
Farm Name*	
Region*	

Land information*

Effective area*			
	Flat		Flat-Rolling
	Rolling		Steep

Pasture growth rate (mean kg DM/ha)										
Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

Crops	Crop 1	Crop 2	Crop 3
Crop Name*			
Area out of Rotation*			
Date area out of Rotation*			
Date area back into Rotation*			
Expected yield			

Nitrogen

Total N kg/ha*		
Total Number of applications*		
Date	Area	Rate (kg N/ha)

Supplements Bought In

Type of feed*	Total bought /year*	Opening and on hand 1st June

Main Milking Mob

Provide dates, numbers, values or percentage where applicable

Number at 1st June (**include 1st calvers**)*		
Breed*		
Breeding worth*		
Liveweight		
Calving Start Date*		
Number/ % of replacements*		
Spring or Autumn Calving?*		
Death number/%*		
Grazing contracts (cows/dries)*	Off/On farm?	Dates?
Grazing contract (R1 heifers calves)*	Off/On farm?	Dates?
Grazing contract (R2 heifers)*	Off/On farm?	Dates?

Supplementary Feeding Milkers (Includes any forage crops or baleage made on farm. Record in kg/head/day)

Feed Name*	Amount *	Month (during which supplement was fed)

Supplementary Feeding Dries (Includes any forage crops or baleage made on farm. Record in kg/head/day)

Feed Name	Amount	Month (during which supplement was fed)

Milk Production

Total MS/season*	
MS/cow (peak milked)	
Dry off date and number of cows	
OAD date and number of cows	

MS production (***total kg per month***) or (***average kg per cow per month***)										
Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

Average pasture cover

Pasture cover kg DM/ha										
Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

* Indicates essential information required. All other information are preferable.

Nutrient Budget Project [35%]

Students are required to submit a completed data form to Judith Buttel (B226) by 5pm on Friday 20 March (SEE BELOW).
Compulsory Lecture: Monday 20 April, 1.10-2.00, Commerce C1 – Assoc Prof Moir

Students will use the 'Overseer' model to complete detailed fertiliser recommendations for a farmer client. The farm used will be known to the student and to do this module/exercise the student will collect adequate data for Overseer from the farm during their practical work placement. The students are required to complete three different fertiliser recommendations for the farm;

2. For the farm as 'status quo'.
3. An alternative fertiliser strategy encompassing a significant change in farm management.
4. A recommendation under a moderate-severely restricted financial budget.

For each recommendation, the students will need to support their fertiliser decisions based on practical, 'real life' scenarios. This includes consideration of how the three scenarios affect production, financial performance, and the wider environment.

Students will submit a report by 4.30pm on Friday 22 May.

AGRI 393 2020 - Farm Data for Nutrient Budget Project

THIS FORM NEEDS TO BE COMPLETED BY EVERY STUDENT AND A HARDCOPY HANDED IN TO JUDITH BUTTEL (BURNS 226) BEFORE 5PM on FRIDAY 20 MARCH.

By handing in this form you agree to the following:

2. ***Your Overseer farm file will automatically be shared with the tutor.***
3. ***Your Overseer farm file may be shared with the farm owner/manager, who will be asked to have a look at this and identify any major errors.***

Because we are aware that not all farmers will reply to this request:

c) ***At least 10% of the farmers will receive a call to check whether practical work has indeed taken place and whether the data used for the project is indeed correct.***

Either in your practical work, or as part of your course work, you should have collected farm data for a Sheep and/or Beef farm. A large part of the Overseer project is about **how to interpret this data** and come up with **a viable way of entering it into a model**. Below is a series of questions and tables to help you through this interpretation, and also to check whether you have all the information you need.

Farm Data

Complete details of farm's owner (or if unavailable the head farm manager):

Name of Farm Owner/Manager: _____

Farm Owner's Address: _____

_____

Farm Owner's Email: _____

Farm Owner's Telephone Number: _____

If different from above

Farm address: _____

_____

Farm Email: _____

Farm Telephone Number: _____

Season that your data was valid for (e.g. 2018-19) _____

Dates that you worked at the farm: _____

Help in filling out this form is available in walk in sessions with Judith (B226) on Thursdays 9am-10am and 1pm-2pm on a first come first serve basis (20, 27 February and 5, 12, 19 and 26 March).

Farm Map and Blocking

<u>One of the first things you will have to enter into Overseer FM is the blocks* and for this you need a farm map. You need to know where the farm and farm blocks are that you can draw them into a map of New Zealand. – If you don't have this map then you cannot start the project.</u>

For the purpose of this project you are asked to rearrange and interpret your data so that you end up with:

at least 2 and a maximum of 3 pastoral blocks,

a maximum of two fodder crop rotations (rotating through the pastoral blocks), and

1 other block choosing from: trees and scrub, fenced wetland or riparian strip.

f) Note that we use the term 'block' here to describe large areas of the farm (containing several paddocks) which have different management, soils, pasture or topography.

I am aware that some farms treat everything as 1 block or as 20 or 30 different blocks, but should they? How many blocks there are on the actual farm does not change the requirements listed above. The goal of this is that you end up with an interesting farm model – but also a manageable amount of work.

There are different ways through which you can achieve your goal.
Rearranging can occur through:

Choosing 2 or 3 appropriate (major) blocks and "ignoring" others.

Splitting up of blocks.

Combining blocks.

Etc.

You will have to be able to explain why you made any choices you did, including relief, soil type, pasture type, size of blocks, different soil tests or fertiliser applications, etc.

The easiest way is either to combine blocks or choose some of the biggest, but varying, main blocks. Be aware that if you ignore some of the area that you will have to recalculate some of your data.

This form includes tables for the main/common features on a New Zealand Sheep and Beef Farm, which is the minimum amount of data that you should have collected.
Please hold on to all other data and bring it to the Overseer labs.

<u>Attach to this form:</u>

3. **A detailed map with blocks of the original farm (it needs to be clear from this map where it is – indicate a street name or the direction and distance to some of the nearest towns or landmarks.**
4. **If applicable, a second map on which you show how you have rearranged the blocks for the purpose of this exercise.**

Pastoral block data

Block name				
Block type		Pastoral	Pastoral	Pastoral
Effective area	in hectares			
Distance from coast	in kms			
Soil type Describe the soil type as best as you can in terms of texture, structure, depth of soil profile, thickness of A-horizon.				
Soil conditions Describe the soil conditions as best as you can in terms of hydrophobic top soil, soil compaction, pugging susceptibility (and when), high water table, waterlogging.				
Topography Choose from flat, rolling, easy hill or steep or record the slope.				
Drainage in place Yes or no, and, if yes – what type? i.e. Tile? Novaflow?				
Pasture type Improved/unimproved, clover content H/M/L/None				
Relative pasture yield Highest producing block is 1.0, lower producing is a fraction of this.				
Cultivated in the last 5 years	Yes or No			
Fertiliser applications List all **annual, non-lime**, fertiliser applications to the pasture. (Ignore fodder crop fertiliser applications.) List manufacturer(s), product(s) and application amount(s) and month(s).				
Previous lime applications Liming is usually not done every year. List in what year **the last liming event** took place. List the amount of lime applied (is this farm wide or per block or per hectare). List the type of product used.				
Annual lime application if applicable If liming occurs on an annual or long-term basis please list the details to the right.				
Irrigation in place Yes or no, and if yes: What type? And what management practices and activities? (Think: trigger point, fixed depth, fixed time, moisture probes or sensors, standard depth, water budget?)				

Soil test data

Block name	Olsen P	QT K	Org S	QT Ca	QT Mg	QT Na	pH	ASC
Year soil tests carried out:								

List soil tests available as most applicable to the blocks chosen.
List for pastoral blocks and if available fodder crops.

Farm data

Actual farm		Adjusted farm	
Actual farm size		Adjusted farm size	
Effective area		Effective area	
Ineffective area		Ineffective area	

b) If applicable: Based on your rearranged blocking estimate a logical total farm area – this will include the area covered by the blocks added, housing area, any farm roads and ineffective area.

Animal data

Sheep		Beef	
Actual farm			
Total sheep in RSU		Total beef in RSU	
Sheep stocking rate RSU/effective ha		Beef stocking rate RSU/effective ha	
Adjusted farm			
Adjusted sheep RSU		Adjusted beef RSU	
Adjusted sheep stocking rate		Adjusted Beef stocking rate	
Greasy wool production (adjusted for new RSU)		Proportion of feed eaten by male cattle	
Health supplements?		Health supplements?	

Supplements

Imported		Harvested	
Type		Type	
Amount		Amount	
Quality of product		Covered/Wrapped	
Months in storage		Months in storage	
Quality of storage		Quality of storage	
Distribution to animals (Where? When?)		Source of harvest	
		Harvest month	
		Distribution to animals (Where? When?)	

Fodder crop data

Crop 1	Crop type			
Area in crop (ha)				
Area crop rotates through				
Month sown and sowing practice				
Grazed in situ or harvested				
Month of last grazing or harvesting event				
Grazing time per day and months grazed				
Month resown into pasture				
Fertiliser applications *List manufacturer(s), product(s) and application amount(s) and month(s).*				

Crop 2	Crop type			
Area in crop (ha)				
Area crop rotates through				
Month sown and sowing practice				
Grazed in situ or harvested				
Month of last grazing or harvesting event				
Grazing time per day and months grazed				
Month resown into pasture				
Fertiliser applications *List manufacturer(s), product(s) and application amount(s) and month(s).*				

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.
http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit:
http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND
New Zealand's specialist land-based university

Department of Agricultural Sciences
Faculty of Agriculture and Life Sciences

ANSC 105, Animal Science
Semester 2, Block 2, 2019

Examiner
Associate Prof. Craig Bunt
Room: 158
Building: NRE
Ph: 30657
Email: Craig.Bunt@lincoln.ac.nz

Lecturer/s
Associate Prof. Adrian Paterson
Room: 526
Building: Burns
Ph: 30750
Email: Adrian.Paterson@lincoln.ac.nz

Dr. Omar Al-Marashdeh
Room: 163
Building: NRE
Ph: 30672
Email: Omar.Al-Marashdeh@lincoln.ac.nz

Tutor
Mr Martin Wellby
Room: 006
Building: RFH
Ph: 30608
Email: Martin.Wellby@lincoln.ac.nz

Teaching assistant
Ms Jayanthi Swaminathan
Room: 166
Building: NRE
Email: Jayanthi.Swaminathan@lincoln.ac.nz

Course Prescription	An introduction to the structure and function of vertebrate animals with emphasis on mammals. Examination of the scientific principles of homeostasis, reproduction, lactation, nutrition and growth.
Prerequisites	None
Recommended Preparation	None
Restrictions	RECN 104, ANSC 121

Course Aims and Learning Outcomes

Aims

The main aim of this course is:

> To introduce students to the study of animal form and function through consideration of general principles in comparative biology, physiology and nutrition.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1: Understand key ways in which animals vary in form and function, and mechanisms by which homeostasis is achieved.

K2: Understand the basic disciplines of nutrition, reproduction, lactation and growth across animal species and how they interrelate.

K3: Understand important factors in the enhancement of animal health and welfare.

K4: Understand the application of some aspects of animal science through appropriate practical experience

Skills

S1: Understand science in a real world context through exposure to industry and sectors which utilise this science.

S2: Employ the scientific method to solve problems both independently and as part of a team.

S3: Collect, process and interpret data, and locate, evaluate and use information in a range of contexts and extrapolate from knowledge and principles to solve new problems.

S4: Co-operate with colleagues, and function effectively as part of a team.

S5: Be organised and manage time and resources effectively and efficiently.

S6: Relate the basic disciplines of animal science to issues of relevance to animal industries.

Values

V1: Show commitment to the fundamental importance of the interdependence between research and scientific knowledge in agriculture.

V2: Behave ethically, based on a well-developed awareness of his or her own moral values, and knowledge and application of principles of ethics.

V3: Demonstrate a sense of social responsibility and an understanding of the contribution of agriculture and food production to the welfare of humanity.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Lectures

Monday 10 – 11 am S2
Tuesday 10 – 11 am S2
Thursday 10 – 11 am S2

Week	Date	Topics	Staff
1	15-Jul	Introduction and Vertebrate diversity	AP
		Vertebrate behaviour	AP
		Introduction to Genetics	AP
2	22-Jul	Population genetics and mammals	AP
		Mammalian diversity and homology	AP
		Course outline*	
3	29-Jul	Cells, tissues and organs	CB
		Temperature regulation	CB
		Cell regulation and receptors	CB
4	05-Aug	Blood and circulatory system	CB
		The kidneys	CB
		Nerves	CB
5	12-Aug	Muscles	CB
		The brain	CB
		The heart and lungs	CB
6	19-Aug	Animal Welfare	CB
		New topic I	CB
		New topic II	CB
		Mid semester break	
7	09-Sep	Growth and development – tissues and organs	OM
		Growth and development – body composition	OM
		Growth and development – factors affecting	OM
8	16-Sep	Nutrition - feed types and composition	OM
		Nutrition – feed composition and quality	OM
		Nutrition – feed composition and quality	OM
9	23-Sep	Nutrition – nutrient requirements	OM
		Nutrition – energy requirements	OM
		Nutrition – the digestive tract	OM
10	30-Sep	Nutrition – digestion and absorption	OM
		Nutrition – digestion and absorption	OM
		Nutrition – metabolism	OM
11	07-Oct	Spermatogenesis, control of testis function and mating	CB
		Ovarian follicles	CB
		Fertilisation, pregnancy and parturition	CB
12	14-Oct	Lactation anatomy and development	CB
		Lactation milk synthesis and control of secretion	CB
		Sexual reproduction, differentiation, and reproductive hormones	CB

* no lecture this day, refer to the online Course Outline Activity

CB – Associate Prof Craig Bunt
AP – Associate Prof Adrian Paterson
OM – Dr. Omar Al-Marashdeh

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including lectorial, self-study material, interactive on-line material, and office hours. Students are strongly advised to make full use of all available learning opportunities
The course uses lectorials, labs, quizzes, assignments and tests to develop an understanding of key ways in which animals vary in form and function, the mechanisms by which homeostasis is achieved and the basic disciplines of nutrition, reproduction, lactation and growth across animal species.

Face-to-face Learning Activities

Lectures

Day	Time	Room
Monday	10am	S2
Tuesday	10am	S2
Thursday	10am	S2

Labs

			Week					
Laboratories	**Day**	**Time**	**4**	**5**	**6**	**9**	**10**	**11**
Stream 1	Wed	9:00 – 11:00 am	JML	JML	NRE029	NRE029	JML	NRE029
Stream 2	Wed	1:00 – 3:00 pm						
Stream 3	Fri	9:00 – 11:00 am						
Stream 4	Fri	1:00 – 3:00 pm						

Online Learning Activities

Online labs

Online labs 1, 2 and 3 will open Monday 29 July and remain open until the end of the mid-semester break

Online labs 4 and 5 will open Monday 16 September and remain open until the end of study week.

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant ourse material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to **check the site and their "@lincolnuni.ac.nz" email regularly**.

Learning objectives, notes and overheads used in lectures and material for some labs may be placed on the class Learn site

During the first three weeks of semester students will be allocated on lab streams for the physical labs run during weeks 4, 5, 6, 9, 10 and 11

Teaching on Field Trip Days

Face-to-face activities and office hours ***will*** be held on field trip days. Any student who feels that they might be disadvantaged by this should contact the examiner **of the course responsible for the field trip** so that alternative arrangements can be made.

Assessment

Formal assessment items

Assessment	Weighting	Due date	Material covered	Key resources
Lab Quizzes	10%	In labs/online	Lectorial/lab material	Lectorial notes, lab book, text books
Test 1	10%	Monday, 12 August Online 1 week to complete	All course content from the start to this date	Lectorial notes, lab book, text books
Test 2	10%	Monday, 23 September Online 1 week to complete	All course content after the first test to this date	Lectorial notes, lab book, text books
Test 3	10%	Monday, 14 October Online 2 weeks to complete	All course content not covered by the first and second tests	Lectorial notes, lab book, text books
Final exam	60%	TBA	Essay, medium and short answer: All material is examinable	Lectorial notes, lab book, text books

Penalties

Late Submission of Assessment

A penalty of 10% of the allotted mark/day for late submission of assignments. Any student who cannot meet the submission deadline for a legitimate reason should make alternative arrangements with the examiner *BEFORE* the due date.

Calculators:
Lincoln restricts the types of calculators allowed to be used in University tests and examinations. If calculators are required, they must be from the Casio fx or Sharp EL range.

Dictionaries:
Dictionaries may NOT be used in tests and examinations.

Academic Dishonesty
Academic dishonesty is completely unacceptable. Any student who commits any act of academic dishonesty including cheating, lying, stealing and deceit in any of their diverse forms (such as plagiarism and copying examinations) will not have their work marked and will have their name forwarded to the University for further action. The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations*.

Office Hours and Feedback Opportunities

Students are welcome to contact lecturers, tutors or teaching assistants by email or phone (listed on the front page) to ask questions or make an appointment to discuss any matters associated with the class. You are encouraged to ask questions in lectorials and labs if there is material you don't understand. Alternatively, ask questions through the fora on the class *Learn*site or through the class reps.

Feedback Opportunities
Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Health and Safety off-campus
Field Trips: full details will be provided separately. Refer to the Code of Conduct for Trips, Tours and other External Activities.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact, e.g. lectorials, labs	47
Non-contact Hours	
Self-directed learning, e.g. study, assignment, online labs, test and exam prep	103

Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Faculty Student Liaison (delete if not applicable)

The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact <name> – they are here to listen to you and help. <name> can be found in <location> or contacted on <email@lincoln.ac.nz>.

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectorials, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

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Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND
New Zealand's specialist land-based university

Department of Agricultural Sciences

Faculty of Agriculture & Life Sciences

ANSC 213 Livestock Production Science
Semester 1, Block 2, 2020

Examiner Dr Racheal Bryant
Location: NRE 168
Ph: 423 0656
Email: Racheal.Bryant@lincoln.ac.nz

Lecturer/s Dr Andy Greer
Location: NRE 181
Ph: 423 0662
Email: Andy.Greer@lincoln.ac.nz

Assoc. Professor Graham Barrell,
Location: NRE 185
Ph: 423 0655
Email: Graham.Barrell@lincoln.ac.nz

Tutor Anita Fleming
Location: NRE 172
Email: Anita.Fleming@lincoln.ac.nz

Course Prescription	Determine the genetic potential for productivity in flocks and herds. The scientific principles of nutrition, growth, reproduction, lactation and animal welfare utilised in capturing the potential of animal production systems. Field studies of aspects of commercial livestock production systems.
Prerequisites	ANSC105
Recommended Preparation	None
Restrictions	ANSC203

Course Aims and Learning Outcomes

Aims

The main aims of this course are:

c) Evaluate the genetic potential of animals from their breeding values and assess rates of genetic change.

d) Describe the principles of nutrition and factors affecting feed intake and to understand how these are used for feed planning.

e) Gain an understanding of the principles of growth and their importance in the production of meat.

f) Understand how the reproductive processes in animals can be modified to improve livestock production.

g) Explain how milk is produced by mammals and how it is harvested as a commercial product.

h) Describe animal welfare and provide examples of welfare issues in livestock production systems.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1. Describe and explain the relevance and application of key principles underlying successful livestock production systems.

Skills

S1. Demonstrate ability and willingness to learn

S2. Extrapolate information from discussion and literature to solve new problems.

S3. Locate, evaluate and use information in a range of contexts.

S4. Co-operate with peers, and work effectively as part of a team.

S5. Demonstrate critical thinking by weighing, evaluating and integrating new information into his or her understanding of issues.

Values

V1. Recognise the importance of the interdependence between application and scientific knowledge in agriculture.

V2. Demonstrate a sense of social responsibility and an understanding of the roles and functions agriculture and agricultural production in the social and political environment.

ANSC 213 Livestock Production Science

Lecture, Field Laboratory and Field Trip Timetable 2020

Week	Date	Day	Time	Type	Room	Topic	Content	Staff
8	17-Feb	Mon	10.00	Lect	S1		Introduction	RHB
	18-Feb	Tue	10.00	Lect	S1	**Nutrition**	Recap: Digestion and ME	RHB
	20-Feb	Thu	10.00	Lect	S1		Products of livestock production	RHB
	21-Feb	Fri	10-12	Lab	JML		*Products lab, meat/milk/velvet/wool*	RB/AG/JH/GB
9	24-Feb	Mon	10.00	Lect	S1		Feeding value: feeds	RHB
	25-Feb	Tue	10.00	Lect	S1	**Nutrition**	Feeding value: nutrients	RHB
	27-Feb	Thu	10.00	Lect	S1		Feeding value: ME and MP	RHB
	28-Feb	Fri	8.15			IDS 1 - Field trip		RB/AG
10	2-Mar	Mon	10.00	Lect	S1		Feed requirements: maintenance	RHB
	3-Mar	Tue	10.00	Lect	S1	**Nutrition**	Feed requirements: production	RHB
	5-Mar	Thu	10.00	Lect	S1		Feed requirements: planning	RHB
	6-Mar	Fri	**10-12**	**Tut**	**C2**		*Feed planning assignment- tutorial*	RHB
11	9-Mar	Mon	10.00	Lect	S1	**Nutrition**	Grazing intake: diet selection	RHB
	10-Mar	Tue	10.00	Lect	S1		Grazing intake: management & allocation	RHB
	12-Mar	Thu	8.15			IDS 2 - Field trip		RB/AG
	13-Mar	Fri	10-12	Lab	LURDF		*Feed requirements and allocation on a dairy farm*	
12	16-Mar	Mon	10.00	Lect	S1		Phenotype, genotype, variation	AWG
	17-Mar	Tue	10.00	Lect	S1	**Breeding**	Heritability, breeding values	AWG
	19-Mar	Thu	10.00	Lect	S1		Accounting for the envirnment	AWG
	20-Mar	Fri	10-12pm	**Tut**	**C2**		Indices and selection/schemes	AWG
13	23-Mar	Mon	10.00	Lect	S1	**Breeding**	Hybrid vigour	AWG
	24-Mar	Tues				Nth island field tour		RB/AO/GB
	26-Mar	Thu						
	27-Mar	Fri						

Mid semester break

14	20-Apr	Mon	10.00	Lect	S1	**Growth**	Revision - first half of semester	AWG
	21-Apr	Tues	10.00	lect	S1		Concepts of growth	AWG
	23-Apr	Thu	10.00	Lect	S1		Relative growth	AWG
	24-Apr	Fri	10-12	Lab	TBC	*Feed planning asgnmt due (25%)*	*Growth lab - measuring/assessing nutrient status*	AWG
15	27-Apr	Mon	10.00	Lect	S1		Allometric growth equations	AWG
	28-Apr	Tue	10.00	Lect	S1	**Growth**	ME growth	AWG
	30-Apr	Thu	10.00	Lect	S1		MP growth	AWG
	1-May	Fri	10-12	Tut	C2		*Assignment tutorial*	AWG
16	4-May	Mon	10.00	Lect	S1	**Reproduction**	reproduction	GKB
	5-May	Tue	10.00	Lect	S1		reproduction	GKB
	7-May	Thu	10.00	Lect	S1		reproduction	GKB
	8-May	Fri	10-12	Tut	TBC		*reproduction*	GKB
17	11-May	Mon	8.15			**field trip day**		
	12-May	Tue	10.00	Lect	S1	**Lactation**	Parturition and neonatal survival	GKB
	14-May	Thu	10.00	lect	S1		Lactation	GKB
	15-May	Fri	10-12	Tut	LURDF	*Growth assignment due (15%)*	*Milk harvesting*	GKB
18	18-May	Mon	10.00	Lect	S1		Lactation	GKB
	19-May	Tue	10.00	Lect	S1	**Welfare**	Welfare	GKB
	21-May	Thu	10.00	Lect	S1		Welfare	GKB
	22-May	Fri	10.00	Tut	**S1**	*Test (10%)*	Test	
19	25-May	Mon	10.00	Lect	S1	**Intensive systems**	Background: intensive systems	RHB
	26-May	Tue	10.00	Lect	S1		Poultry	guest
	28-May	Thu	10.00	Lect	S1		Pigs	guest
	29-May	Fri	10.00	Tut	**S1**	**Revision**	Putting it all together	RHB

Learning and Teaching Arrangements

Learning and Teaching

The course provides a range of delivery methods and learning opportunities for students including lectures, workshops, field trips and farm tours, self-study material, interactive on-line material, group work, and office hours. Students are strongly advised to make full use of all available learning opportunities

Face-to-face Learning Activities

Lectures

Day	*Time*	*Room*
Monday	10.00	S1
Tuesday	10.00	S1
Thursday	10.00	S1

The time allocated on Friday will be used for a combination of lectures and field laboratories, see the attached lecture and lab schedule for further information. There will be no lectures on field trip days. The first three field trip days will be used for IDS field trips. There is no field trip on either of the field trip days after the mid-term break. Material for lectures and labs will be placed on the ANSC 213 Learn site prior to class. It is recommended that you are familiar with this material before you attend class.

Labs / Tutorials

Day	*Time*	*Location*
Friday	10.00	TBC
Friday	11.00	TBC

Field Trips / Tours

Day	*Time*
Fri 28th Feb	8.15am-5pm
Thur 12th March	8.15am-5pm
Tues 24th March (during NI tour)	8.15am-5pm
NI Tour - Tues 24th to Fri 27th April	8.00am-5pm

Further information about the field trip / tour will be provided in lectures and on the course LEARN page. Location of the farms where labs take place can be found on the Lincoln University farms webpage

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Notes

Lecture notes will be posted on LEARN. It is important to note that the images shown in lectures will not all be available in the PDFs of the notes, as copyright regulations prevent this. Some readings will be placed on the relevant LEARN site. Camtasia recordings will be made where possible and also placed on LEARN.

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

To find out more, log into the website at http://library.lincoln.ac.nz or visit the iZone in the Library. iZone staff will provide help with finding and using information in assignments, referencing, Endnote and computer problems.

Textbooks and other reference material:

There is no single textbook that is required to be purchased for ANSC 213. Textbooks, journal papers and any other learning resource will be advised by teachers for each module. However, it is highly recommended to be familiar with the following publications.

Pasture and Supplements for Grazing Animals, Occasional Publication of the New Zealand Society of Animal Production No 14, ed. by Rattray, Brookes and Nicol.

Reproductive management of grazing ruminants in New Zealand, Occasional Publication of the New Zealand Society of Animal Production No 12, ed. by Fielden and Smith.

These are available in the library. Alternatively they are available for purchase from either the bookshop, Robyn Wilson (JBB 017) or directly from the New Zealand Society of Animal Production www.nzsap.org.nz.

Other useful reference material:

New Zealand Sheep Council Publications: A Guide to genetic improvement; 400 plus, a guide to improved lamb growth; 200 by 2000, a guide to improved lambing percentage; A guide to feed planning for sheep farmers.

Other learning activities Field trips/Tour program:

Two inter-disciplinary field trips to local farms in the Canterbury region and a four day field tour are part of ANSC 213. Students will be expected to gather appropriate information, as set by the specific objectives for that trip, on each of these visits. Aspects of livestock production and management observed and discussed during these field studies will be reinforce material presented in the lecture program. All such material is examinable. Specific aims and objectives for each of these trips will be distributed.

The overall aim of these trips and the tour is to appreciate how animal production (ANSC 213), plant/pasture production (PLSC 204), soil management (SOSC 224) and farm management (MGMT201) integrate in commercial livestock farming systems.

The inter-disciplinary field trips visit the following farm types in the Canterbury Region. **These field trips leave at 8.15 am on field trip days and return about 4.30/5.00 pm.** More details will be outlined in class.

North Island Field Tour: Tuesday 24th – Friday 27th March
The field tour visits properties in the lower North Island involved in the following livestock systems.

2. North Island hill country, store sheep and cattle
3. Dairy
4. Venison and velvet production
5. Beef

Teaching on Field Trip Days
Face-to-face activities and office hours ***will not*** be held on field trip days.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered
Feed planning assignment	25%	Friday 24th April	***S4, S5 and S6***
Growth assignment	15%	Friday 15th May	***S2, S4 & S6***
Test	10%	Friday 22nd May	***S1, S2 & S5***
Exam	50%	TBA	***S6***

Assessment Summaries
Details of each of the internal assessment will be distributed at the event or available on the ANSC 213 Learn website.

Penalties
Students who do not submit a reasonable attempt of the following items of internal assessment may be awarded a grade of NC (Not Complete) for that particular assessment. Unless prior permission has been sought, late assignments will have marks deducted at a rate of 10% for 1-7 days overdue, 20% deducted if more than a week overdue. In order to be awarded a pass grade in this course students must attain 50 percent or more in the course overall.

Mandatory Course Requirements
This course includes two field trips and a field tour which are compulsory. Assessment of learnings from trips and tours occurs in the final exam. If you are repeating this course or have attended field trips and tours in previous courses then you may request an exemption.

Calculators:
A calculator and access to Microsoft Excel software is essential for this course. Lincoln university restricts the types of calculators allowed to be used in University tests and examinations.

Calculators must be non-programmable and/or from the Casio FX or Sharp EL range.

Dictionaries:
Dictionaries may NOT be used in tests and examinations.

Field Trips / Tours
Attendance at field trips 1 and 2 and North Island tour is mandatory.

Late Submission of Assessment
A penalty of 10% of the allotted mark/day for late submissions of up to 7 days and a penalty of 20% if up to 14 days late, a further 10% penalty each week the assignment is late.

Academic Dishonesty
The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations and Policies*

Office Hours and Feedback Opportunities

Students are welcome to make an appointment for assistance or e-mail the staff directly.

Office hours	***Day***	***Time***	***Room***
Racheal Bryant	Monday to Friday	9.00 am to 4.30 pm	NRE168

Check with individual teachers and tutors regarding their availability. Students are welcome to drop-by the Examiner's office at other times (although they may not always be available), and to contact the Examiner to make an appointment at a mutually agreeable time. Towards the end of semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate both the course and the Examiner at the end of the semester.

Guest lecturers
Professionals from a range of industry sectors will present lectures on relevant and topical issues. The provision of guest lecturers is dependent upon availability of external individuals and may be affected by external circumstances.

Health and Safety off-campus
Field Trips: full details will be provided separately. Refer to the Code of Conduct for Trips, Tours and other External Activities:
http://www.lincoln.ac.nz/footer/health-and-safety/our-health-and-safety-policy/?sti=1

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact, e.g. lectures, tutorials, field trips, exams	80
Non-contact Hours	
Self-directed learning, e.g. study, projects, test and exam prep	70
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

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Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Department of Environmental Management
Faculty of Environment, Society and Design

LINC 101
Land, People and Economies
Semester 1, 2020

Examiners	**Name:**	Shannon Page (ESD)	
	Room:	Forbes Building F417	
	Phone:	423-0436	
	Email:	shannon.page@lincoln.ac.nz	
	Name:	Tom Maxwell (AGLS)	
	Room:	Field Research Centre 107	
	Phone:	423-0671	
	Email:	tom.maxwell@lincoln.ac.nz	
Contributing Lecturers		Carol Smith Niklas Lehto Jon Sullivan Sarah Edwards Lloyd Carpenter Roy Montgomery Steve Wratten	Sylvia Nissen Grant Edwards Ken Hughey Geoff Kerr David Simmons Amanda Black
Administrator	**Name:**	Michelle Collings	
	Room:	Forbes Building F419	
	Email:	Michelle.Collings@lincoln.ac.nz	
Tutors	**Name:**	John Gould	
	Room:	F809	
	Email:	Linc.Tutor@lincoln.ac.nz	

Activity	Day	Time	Room
Lectures	Monday	9.00 – 9.50am	S2
	Wednesday	9.00 – 9.50am	S2
	Friday	9.00 – 9.50am	S2
Tutorials (book online at beginning of semester)	Tuesday – Thursday	1 hour a week	AER 009
Field Trip (only attend one session, book online at beginning of semester)	Monday 11 May	8am – 12pm	Depart Orchard carpark
	Monday 11 May	12.30pm – 4.30pm	Depart Orchard carpark
Further information will be provided in lectures and on the course LEARN page.			

Office hours	Day	Time	Room
Student drop-in times, no appointment necessary	Tuesday	2 – 3pm	TBD
	Thursday	2 – 3pm	TBD
Please note that office hours **will not be held** during weeks 1 & 7 of semester, or during the mid-semester break.			

Course Prescription	An introduction to the fundamental principles and multiple dimensions of people-land relationships.
Prerequisites	None
Recommended Preparation	None
Restrictions	ERST 101

Course Aims and Learning Outcomes

Aim

The aim of this course is to introduce students to land-based issues including the major drivers of land use change and their biophysical, ecological, social, economic and cultural implications.

Learning Outcomes

After successfully completing this course, students will be able to:

Knowledge

K1. Describe the biophysical, ecological, social, economic and cultural dimensions that influence people-land relationships
K2. Explain the nature of land rights
K3. Identify and describe major influences on land use change
K4. Identify and describe the use of natural resources: sustainable use and impacts of over-exploitation

Skills

S1. Locate and evaluate information from a range of disciplinary perspectives to assess a land-based issue
S2. Use a range of media formats to communicate land issues
S3. Use interpersonal skills, including an ability to relate to people from a wide range of backgrounds and communities
S4. Display appropriate organization and time management skills in relation to blended learning and delivery of assignments

Values

V1. Appreciate multiple perspectives (including students' own) of people/land relationships
V2. Establish a basis for independent, life-long learning

Course Content

		Pōwhiri	
Bio Physical	Week 1	Introduction and motivation	**Weekly Quiz**
and Ecological	17th February	Physical characteristics of land	
dimensions		Water	
		- *No tutorial in the first week*	
	Week 2	Ecology and Ecosystems	**Weekly Quiz**
	24th February	Human changes to Ecosystems	
		- **No lecture Friday – Field Trip day**	
		Introduction and Assignment one	
	Week 3	Climate and Weather	**Weekly Quiz**
	2th March	Climate Change	
		Summary of Biophysical-Ecological dimension	
		Tutorial: Interpreting S-Map and Our Environment	
Social and	Week 4	Perspectives on land	**Assignment 1 due**
Cultural	9th March	Māori and Pakeha to 1840	**9/3/20, 5pm**
Dimensions		The Treaty of Waitangi and Treaty Settlements	
		Tutorial: – Evaluating a reading	**Weekly Quiz**
	Week 5	Dynamic relationship of Māori to land and water	**Weekly Quiz**
	16th March	Land Ownership	
		Planning – a process for deciding land use change	
		Tutorial: constructing a critical argument	
	Week 6	Summary of Social-Cultural Dimension	**Weekly Quiz**
	23th March	Economics – Fundamental Concepts	
Economic		Non-market valuation I	
Dimensions		*Tutorial: Preparation for the Test*	
		Mid Semester Break	**Assignment 2 due 30/3/20, 5pm**
	Week 7	Non-market valuation II	**Test, 21/4/20,**
	20st April	Externalities – and Types of goods	**6.pm**
		Summary of Economic Dimension	
		No Tutorial – test week	**Weekly Quiz**
	Week 8	**No Lecture Monday – Anzac Day**	
	27th April	**No Lecture Wednesday – Field Trip**	
		Environmental Policy	
		Tutorial	**Weekly Quiz**
Case study	Week 9	Systems Thinking	
	4th May	Te Waihora/Lake Ellesmere I	
		Te Waihora/Lake Ellesmere II	
		Tutorial: The multiple dimensions of Te Waihora	**Weekly Quiz**
	Week 10	**No Lecture Monday – LINC 101 Field Trip**	
	11th May	Dairy in Canterbury	
Global		Population and Demographic change	
Challenges		*Tutorial: Applying systems thinking to Te Waihora*	**Weekly Quiz**
	Week 11	Mobility and Globalization	
	18th May	Food Security and Production	
		Agro-Ecology	
		Tutorial: Global Challenges debate	**Weekly Quiz**
	Week 12	Risk of invasive organisms to NZ's flora and fauna	**Assignment 3,**
	25th May	Solutions to biosecurity incursions	**25/5/20, 5:00pm**
		Exam preparation and course summary	
		Tutorial: How to answer exam questions	**Weekly Quiz**

The above table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Learning and Teaching Arrangements

Blended Approach

LINC101 is a blended course, which means students must engage with a number of different teaching and learning methods in order to successfully complete this course. These include:

f) Lectures
g) Workshops/tutorials
h) Online activities including quizzes, recorded presentations
i) A field trip
j) Independent research and reading
k) Pōwhiri

Students will be required to access the LINC 101 Learn site frequently throughout the course, as this site will provide access to teaching material, and is the main method of communication.

Whilst students are responsible for their own learning, tutors, lectures and Library teaching and learning staff will support this learning. Students are encouraged to ask questions, and seek help at the earliest possible time.

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Face to Face activities

Lectures

There are typically three lectures per week; lecture room S1 on Monday 9 – 9.50am, Wednesday 9 – 9.50am, and Friday 9 – 9.50am. **Lectures (and tutorials) will not held on field trip days**.

Tutorials

From the second week of term, students are to attend a one hour tutorial session each week, where assessment tasks will be covered, as well as specific skills and details of course content. Students are to book themselves into their preferred day/time via the LINC101 course site (Learn.Lincoln.ac.nz). Bookings can be made during the first week of semester; after this time they can only be changed (subject to availability) by contacting the administrator (Michelle Collings, or email linc.tutor@lincoln.ac.nz)

Drop in Sessions

Tutors will be available to answer student questions, no appointment is necessary. These are held on Tuesday 3 – 4 pm, Wednesday 3 – 4 pm, and Thursday 3 – 4 pm (room to be decided).

Field Trips

Refer to the Code of Conduct for Trips, Tours and other External Activities: This information is available in the right hand bottom column on the front page of LEARN.

Lecture Notes

Lecture notes will be posted on LEARN. It is important to note that the images shown in lectures will not all be available in the PDFs of the notes, as copyright regulations prevent this. Some readings will be placed on the relevant LEARN site. Camtasia recordings will be made where possible and also placed on LEARN.

Teaching on Field Trip Days

Face-to-face activities and office hours ***will not*** be held on field trips days.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Due date	Weighting	Learning outcomes covered	Key resources
Online quiz	12 Weekly quizzes (highest 10 go towards your final grade)	10% (10 × 1%)	K1, K2, K3, K4, V1	Lecture notes, online reading
Test	Tuesday 21st of April 6:00pm	14%	K1, K2, K3, K4	Lecture notes, online reading, assignment resources
Assignment 1	Monday 9th of March 5.00pm	8%	K1, K2, K3, S1, S2, S3, S4, V1, V2	Lecture notes, online reading, assignment resources
Assignment 2	Monday 30th of March 5.00pm	8%	K1, K2, K3, K4, S1, S2, S4	Lecture notes, online reading, assignment resources
Assignment 3	Monday 25th of May 5.00pm	15%	K1, K2, K3, S1, S2, S3, S4, V1, V2	Lecture notes, online reading, assignment resources
Final exam*	TBA - See exam timetable	45%	K1, K2, K3, K4, V1	Lecture notes, online reading, assignment resources, online tests

***Please note that the exam (45%) is a mandatory component: students must sit the final exam to pass this course.**

Assessment Summaries

Assignments

All assignments must be electronically submitted to turn-it-in on the LINC 101 Learn page by 5.00pm on the due date. You may also be required to submit a hard copy to a drop box. All assignments are to be completed individually. The assignments contribute to a maximum of 31% percent of your final grade and the completion of assignments is crucial in order to achieve a high mark in the test and exam. Each assignment must be submitted with a cover page, and your name and ID must be on all pages. Instructions will be made available on the course webpage.

Final Examination

The final examination is 3 hours in duration. Material covered during lectures, self-study and online material, review material, assigned readings and supplementary material are examinable unless otherwise stated by the Examiner. A review session for the final exam will be held on the 1st of June, 9-10am, S1.

Test

The test is 1 hour long, and will be held at **6.00pm on Tuesday 21st of April** (first week back after the Mid-semester study break). It will cover all material in the course up until that date.

Weekly Quizzes

Quizzes are accessed via Learn. Each quiz will be open for one week only. You may attempt the quiz as many times as you like; only your highest score will be recorded. There are 12 quizzes in total, your 10 highest will count towards you final mark.

Late Submission of Assessment and Aegrotat

Lateness Policy

If you are ill or have personal circumstances (such as the death of a family member), which mean you

submit work late or not at all, you should apply for an aegrotat grade. Aegrotat forms are available on LEARN at the very bottom of the front page under the heading *Policies/Aegrotat process* or from the Department of Environmental Management secretary on the 4th Floor, Forbes Building. Aegrotat applications are to be handed/emailed to the secretary who will pass onto the examiner. Where an aegrotat is not granted, assignments handed in after the due time and date will be penalised, as set out below. Late assignments should not be placed in the box, but must be handed in to the secretary to be date/time stamped. ***Assignments will not be accepted if submitted more than 120 hours after the due time.***

Period of Lateness	Deduction
Up to 24 hours after the due time	10% of the value of the assignment
From 24 hours to 48 hours after the due time	20% of the value of the assignment
From 48 hours to 72 hours after the due time	30% of the value of the assignment
From 72 hours to 96 hours after the due time	40% of the value of the assignment
From 96 hours to 120 hours after the due time	50% of the value of the assignment

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations and Policies* http://learn.lincoln.ac.nz/pluginfile.php/8614/block_html/content/Universal_Course_Regulations.pdf *(also available on the bottom right hand column on the front page of LEARN).*

Feedback Opportunities

Tutorials will provide the main forum for students to ask questions and receive feedback. Tutors will also be available to talk to students in the tutor office (F604) during office hours:

If you have any course related enquiries and are unsure as to who to contact, please email linc.tutor@lincoln.ac.nz.

Student Workload

The total student workload of **150 hours** (including face to face activities) in this course represents the **minimum amount of time that an average or B grade student** might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours**
Pōwhiri	1
Lectures	31
Tutorials	10
Field trip	4
Exam	3
Test	1
Non-contact Hours	
Own study (assignments, quizzes, study for test & exam	100
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.
http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

For any additional support, there are drop in sessions in the Library from 10.30-11.30 every day or you can book a one on one session at the library or online. https://ltl.lincoln.ac.nz/advice/study-skills/book-a-workshop-or-appointment/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Department Land Management and Systems
Faculty of Agribusiness and Commerce

MGMT 103 Primary Industry Systems
Semester 1, Block 5, 2019

Examiner	Professor Alison Bailey **Room**: C211 **Building**: Commerce **Ph:** 423 0226 **Email:** Alison.Bailey@lincoln.ac.nz
Lecturer/s	Andrew Greer (animals) **Room**: JBB016 **Building**: John Burton **Ph**: 423 0662 **Email:** Andy.Greer@lincoln.ac.nz
	Derrick Moot (plants) **Room**: FSC 105 **Building**: FSC **Ph:** 423 0705 **Email:** Derrick.Moot@lincoln.ac.nz
	David Shillito (horticulture) **Room**: O006 **Building**: Orchard **Ph:** 423 0270 **Email:** David.Shillito@lincoln.ac.nz
Tutor/s	Elizabeth Burtt **Room**: O001g **Building**: Orchard **Ph:** 423 0266 **Email:** Elizabeth.Burtt@lincoln.ac.nz
Guest lecturer/s	Mark Bloomberg (forestry) **Email:** mark.bloomberg@canterbury.ac.nz Guest lecturers from selected other sectors will also contribute to this course
Course Prescription	An introduction to the breadth and complexity of agricultural, horticultural, forestry and food systems; emphasising the scientific, technological, environmental and socio-economic relationships involved.
Prerequisites	None
Recommended Preparation	None
Restrictions	None

Course Aims and Learning Outcomes

Aims

Land based primary production is a major driver of the New Zealand economy. This subject provides students with an overview of agriculture, horticulture and forestry; their components, their resource and knowledge bases, and the science and business concepts that support them. The emphasis is on understanding the contributions of and the interrelationships between the various components in a systems framework.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1. Explain the main drivers of agricultural, horticultural and forestry production systems.
K2. Describe the market and business environment in which primary industry systems operate.
K3. Demonstrate that they understand the meaning of system based and reductionist approaches to science, and their roles in interdisciplinary problem solving.

Skills

S1. Demonstrate their ability to source and review information relating to a specified topic.
S2. Report on and explain specified primary industry systems.

Values

V1. Recognise and describe how the practice of agricultural management requires lifelong learning and the constant application of updating skills and technologies.
V2. Demonstrate appropriate professional practice and a strong commitment to high standards of work.
V3. Observe requirements for confidentiality in relation to information provided directly or indirectly, particularly regarding interaction with the wider industry during field trips and in guest lectures, and not carelessly do anything to injure, directly or indirectly, the reputation, prospects or business of an individual or organisation.
V4. Differentiate between different cultural and socio-economic perspectives.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week commencing	Day	Topic	Staff
1 18 February	Monday 1pm	Introduction	AB
	Monday 3pm	Agriculture & farming systems NZ agricultural systems: the farming year	AB
	Tuesday 1pm	Financial management: gross margins	AB
	Thursday 1pm	Financial management: cash, profit & wealth	AB
2 25 February	Monday 1pm	**Tutorial 1: Report Presentation**	AB
	Monday 3pm	**Farm visit** – Arable, Dairy, Sheep	
	Tuesday 1pm	Global agriculture: past to present	AB
	Thursday 1pm	NZ agriculture: past to present	AB
3 4 March	Monday 1pm	The Deer Industry **Report 1 due**	Guest
	Monday 3pm	**Farm visit** – Arable, Dairy, Sheep	
	Tuesday 1pm	Animal systems	AG
	Thursday 1pm	Animal systems	AG
4 11 March	Monday 1pm	Animal systems	AG
	Monday 3pm	**Farm visit** – Arable, Dairy, Sheep	
	Tuesday 1pm	Animal systems	AG
	Wednesday	**Report 2 due**	
	Thursday 1pm	NZ cropping	Guest
5 18 March	Monday 1pm	Horticulture systems	DS
	Monday 3pm	**Horticultural visit**	
	Tuesday 1pm	Horticulture systems **Tutorial 2: Annotated Bibliography**	DS
	Wednesday	**Report 3 due** **Tutorial 2: Annotated Bibliography**	
	Thursday 1pm	Horticulture systems **Tutorial 2: Annotated Bibliography**	DS
	Friday	**Tutorial 2: Annotated Bibliography**	
6 25 March	Monday 1pm	Horticulture systems **Tutorial 2: Annotated Bibliography**	DS
	Monday 3pm	**Horticultural visit**	
	Tuesday 1pm	The wine Industry **Tutorial 2: Annotated Bibliography**	RH
	Wednesday	**Tutorial 2: Annotated Bibliography**	
	Thursday 1pm	Ethical foods **Tutorial 2: Annotated Bibliography**	SF
	Friday	**Report 4 due** **Tutorial 2: Annotated Bibliography**	
7 1 April (2 April: Field Trip Day)	Monday 1pm	Dairy processing and marketing **Drop-in help available all week: Ann. Bibliography**	AB
	Monday 3pm	Dairy processing and marketing	AB
	Tuesday 1pm	Field Trip Day: no lecture	
	Thursday 1pm	No lecture	
	Friday	**Annotated Bibliography due**	

8 April	**Mid Semester Break**	
15 April		
22 April		

8 29 April	Monday 1pm	The forestry sector	MB
	Monday 3pm	The forestry sector	MB
	Tuesday 1pm	The forestry sector	MB
	Thursday 1pm	Supply chains	AB
9 6 May (6 May: Field Trip Day)	Monday 1pm	Field Trip Day: no lecture	
	Monday 3pm	Field Trip Day: no lecture	
	Tuesday 1pm	Global food and resource issues	Guest
	Thursday 1pm	Meat processing and marketing	AG
10 13 May (16 May: Field Trip Day)	Monday 1pm	Meat processing and marketing	AG
	Monday 3pm	Wool processing and marketing	AG
	Tuesday 1pm	Wool processing and marketing	AG
	Thursday 1pm	Field Trip Day: no lecture	
11 20 May	Monday 1pm	Plants in Agriculture **Research Project due**	DM
	Monday 3pm	Plants in agriculture	DM
	Tuesday 1pm	Plants in agriculture	DM
	Thursday 1pm	Plants in agriculture	DM
12 27 May	Monday 1pm	Environmental issues	KC
	Monday 3pm	Farming around the world	Guests
	Tuesday 1pm	Course review	AB
	Thursday 1pm		

AB: Alison Bailey
AG: Andy Greer
DM: Derrick Moot
DS: David Shillito
MB: Mark Bloomberg
KC: Keith Cameron
RH: Roland Harrison
SF: Sharon Forbes

Learning and Teaching Arrangements

Learning and Teaching Approach

The learning and teaching approach is based on a combination of face-to-face lectures, interactive lecture/tutorials and on-line resources from the course website. Students are strongly advised to make full use of all available learning opportunities.

The subject will include modules on:

- The organisation of agriculture globally Systems concepts
- Role of animals
- Role of plants
- Horticultural systems
- Forestry sector
- Processing & marketing sectors
- Research and writing skills

Farm and Horticultural Visits: There will be five visits to University and commercial units during the semester, for two to three hours from 3.00pm on Mondays.

Please:

BE ON TIME. Meeting times and places will be announced in class before the visit.

Dress appropriately. Boots or good shoes, not jandals or light sandals. A reasonable standard of dress will be required. Take rain gear if damp conditions are expected.

Demonstrate professional practice. Students should conduct themselves with integrity, in a manner which is not detrimental to themselves, their fellow students nor Lincoln University, and in accordance with reasonable expectations of professional persons. All information, including financial data provided by the farmer will be held in confidence.

Be courteous to the owner or manager, regardless of what you think of their management.

Tutorials and Drop-In Sessions: There will be two tutorials plus drop-in sessions during the semester designed to assist you in completing the farm and horticultural reports, annotated bibliography and research project report.

Tutorial 1 will take place in Week 2 before the first farm visit. It will cover the presentational requirements for your farm and horticultural reports.

Tutorial 2, the Annotated Bibliography tutorial, aims to develop students' information literacy skills and to introduce students to a range of information sources and issues relating to their use, particularly in regard to the Annotated Bibliography and subsequent Research Report assignments. Students must complete the undergraduate Learning and Information Skills workshop *before* attending Tutorial 2. It is therefore necessary for you to attend this session within the first four weeks of semester if you have not previously completed it. You are strongly advised to attend all tutorials if you wish to submit assignment reports of an acceptable standard – see under Policies and Penalties below. **The tutorials run during the following weeks:**

Tutorial 1	Week 2
Tutorial 2	Week 6
Drop-in	Available on a weekly basis

Lists of tutorial times and venues will be posted on the course *Learn* site and in the Library beside the service desk. **You will need to sign up** for Tutorial 2 on the course *Learn* site for a time that fits in with your other commitments. Students must complete the **Learning and Information Skills workshop** *before* attending Tutorial 2.

Face-to-Face Learning Activities

Lectures

Day	Time	Room
Monday	1.10pm – 2.00pm	S1
Monday	3.10pm – 5.00pm	S1
Tuesday	1.10pm – 2.00pm	S1
Thursday	1.10pm – 2.00pm	S1

Farm and Horticultural Visits

Day	Time
Monday	3.10pm – 6.00pm, weeksa 2-6

Further information about the farm and horticultural visits will be provided in lectures and on the course LEARN page.

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Presentations

Where available, PowerPoint slides from lectures will be posted on LEARN. It is important to note that not all PowerPoint slides or parts thereof will be made available. It is at the discretion of the speakers.

Resources

In completing all assignments associated with this course, students should refer to the MGMT 103 Farm Management Resource Books: Research and Writing Guide available as a pdf on LEARN

Equipment to purchase

Students should make sure they have the appropriate footwear and clothing for the farm and horticultural visits. Gumboots or stout shoes are required as dipping of footwear in disinfectant footbaths is essential for some farm visits. Warm waterproof/windproof clothing will prove beneficial. Sun cream is also advised on warm sunny days.

Teaching on Field Trip Days

Face-to-face activities and office hours ***will not*** be held on field trips days.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered
Farm and horticultural visit reports 3 reports	20%	4 March 13 March 20 March 29 March	K1, K2, K3, S2, V1, V2, V3
Annotated bibliography	15%	5 April	S1, S2, K3, V1
Research report	15%	20 May	K1, K2, K3, S1, S2, V1, V2
Final exam	50%	TBA	K1, K2, K3, S2, V1, V3

Assessment Summaries

Farm and horticultural visit reports

There will be a short project associated with each of the five farm and horticultural visits, requiring you to observe the special features of the industry system. Expected time commitment – 5 hours per project.

You MUST complete a minimum of THREE projects which will be marked and will contribute to your final grade.

If you complete more than three projects; the highest three marks will be included in your final grade. Projects must be your own work. Copied projects will get zero marks. It will be necessary to attend the unit visit in order to complete the project and for that reason projects will not be accepted from those who do not attend the visit.

Projects will be word processed on A4 paper with pages stapled together, must meet the minimum standards listed in the Farm Management Research and Writing Guide, and must be deposited in the class project boxes in the east corner of the ground floor, Orchard Building, by **8.30 a.m. on the due date** in the week following the unit visit. Late work will not be marked.

Annotated Bibliography

Each student will be required to prepare an annotated bibliography on a topic related to primary industry systems in New Zealand and of current interest. A handout describing choices of topic and resources will be provided in lectures in the second week of teaching. Bibliographies must be deposited in the class project box by **8.30 a.m. on Friday 5 April**. The expected minimum time commitment for this project is 20 hours.

Research Report

Building on the annotated bibliography, each student will be required to research a topic of current interest and write a short report on this topic. Completed projects must be handed in to the class project box by **12.00 p.m. on Monday 20 May**. The expected minimum time commitment for this project is 20 hours.

Final Examination

The final examination is three (3) hours in duration. Material covered during lecture, self-study and from the farm and horticultural visits are examinable. A review session for the final exam will be held at the end of the course.

Penalties

In order to be awarded a pass grade in the course students must attain 40 percent or more in the final examination and 50 percent or more in the course overall. A student may receive a grade of F (fail) for this course if he or she obtains a mark of 50 percent or more in the course overall, but obtains a mark of less than 40 percent in the final examination.

Mandatory Course Requirements

Attendance at all farm and horticultural visits is mandatory. Failure to attend a visit, without the prior agreement of the examiner, will result in the student not being eligible to achieve a passing grade in this course. If you are unable to attend a visit and the reason reaches the threshold in the University regulation 4 (1),

Complete an aegrotat form with evidence, and hand into the Faculty administration office
Collect the information required for the assessment from a classmate and complete the assignment and be prepared for any related questions in the final exam. You may also find it useful to speak to the member of staff who led the field trip that you were allocated to attend.

If the issue is on-going i.e. it affects assignment completion, contact the examiner to discuss.

All course material is examinable, if you missed a visit, and received an aegrotat or not, it is your responsibility to gather the required information.

Visit groups: students will be allocated to a visit group. Each group will have separate visits. No student may change their group without prior permission of the Examiner. Attendance at the student's allocated groups' host farm/horticultural enterprise is mandatory, assessment must also be completed based on the students allocated group/visit, or it will not be marked.

Sub-minimums

Presentation Standards:

All professionals should be capable of quality report writing and presentation. Presentation requirements for assignments submitted for this course are outlined in the Farm Management Research and Writing Guide which will be covered in Tutorial 1. These requirements are intended to give you clear instructions to enhance the quality and content of your work, and to make assignments easier for the marker to assess. Specific assignment outlines will state any variation to these requirements.

If you need any further help in implementing presentation requirements, there are a set of tutorials on individual topics on the AGCM Learn site, which is linked to the MGMT 103 Learn site. Most of these take no more than a few minutes to go through.

All assignments must meet the minimum presentation standards. In the case of the first assignment where reports do not meet these requirements, the assignment will be returned and students will have 24 hours to revise and resubmit their work; if returned assignments are not resubmitted within the specified time or still do not meet the required standards, THEY WILL NOT BE MARKED or MARKED DOWN accordingly.

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations.*

Office Hours and Feedback Opportunities

Office hours
Alison Bailey

Day	Time	Room
Monday	2.00pm - 3.00pm	C211
Tuesday	2.00pm - 3.00pm	C211

Students are welcome to drop-by the Examiner's office at other times (although they may not always be available), and to contact the Examiner to make an appointment at a mutually agreeable time. Towards the end of semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Guest lecturers

Professionals from a range of industry sectors will present lectures on relevant and topical issues. The provision of guest lecturers is dependent upon availability of external individuals and may be affected by external circumstances.

Health and Safety off-campus

No student may participate in the visits without completing a medical form, noting medical conditions, allergies & medication, if necessary. Full details will be provided separately in lectures and on the LEARN site. Refer to the Code of Conduct for Trips, Tours and other External Activities.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Lectures	37
Tutorials	3
Field trips	10
Non-contact Hours	
Self-directed learning incl. exam preparation	37
Assessment	60
Exam	3
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Faculty Student Liaison

The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact **Nicos Tescos** – they are here to listen to you and help. **Nicos Tescos** can be found in Orchard 001C or contacted on **Nicos.Tescos@lincoln.ac.nz.**

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support, Students' Association, Student Health, Counselling, and Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

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Department of Land Management & Systems
Faculty of Agribusiness & Commerce

MGMT201
Principles of Farm Management
Semester 1, Block 3, 2020

Examiner / Lecturer	Victoria Westbrooke **Room**: 006 **Building**: Poplars **Ph:** 423 0272 **Email:** Victoria.Westbrooke@lincoln.ac.nz
Lecturer	Jacob Kambuta **Room**: 007 **Building**: Poplars **Ph**: 03 4230159 **Email:** Jacob.Kambuta@lincoln.ac.nz
Tutor	Elizabeth Burtt **Room**: 001g, **Building**: Orchard **Ph**: 423 0266 **Email:** Elizabeth.Burtt@lincoln.ac.nz
Course Prescription	The farm as a bio-economic unit employing the basic resources of land, labour, capital, management and technology. The personal factor in management; practical integration of the husbandries into farming systems; comparative analysis techniques; farm planning and resource allocation; land tenure. Case study investigation of management principles. Note: A regional study tour is an integral part of this course. Participation in interdisciplinary studies is required.
Prerequisites	Four 100-level courses
Recommended Preparation	It is recommended the following courses & farm-work be taken before MGMT201 - ANSC 105, MGMT103, PLSC 104, SOSC 106; at least 11 weeks of approved farm practical work. It is also recommended that the following courses are taken at the same time as MGMT201- ANS213, PLSC204 and SOCS224.
Restrictions	*None*

You said, We did…

Changes made to this course as a result of student feedback.

The marking rubric for assignments has been updated, this will help with marking consistency and improve feedback provided to students.

Course Aims and Learning Outcomes

Aims

The main aims of this course are:

To consider, in an applied context, the management of resources to create a whole farm system with physical, financial and personal objectives.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1. Develop a comprehensive understanding of the knowledge fields relevant to the different stages of primary production system.

K2. Describe in-depth the multi- and inter-disciplinary nature of the bio-physical environment and biological production systems and the impact of these on agribusiness and food supply chains.

K3. Explain the characteristics of agricultural, horticultural and agribusiness industries and the theoretical concepts that underpin their formation, operation and management.

K4. Appreciate the risky nature of farming systems.

Skills

S1. Apply appropriate approaches, methods and tools to analyse, evaluate and solve problems related to real world agricultural production management issues.

S2. Critically evaluate risks and implement mitigation and avoidance strategies.

S3. Integrate theory and practice from different disciplines to evaluate complex social, economic and technical aspects of bio-economic farming systems.

Values

V1. Recognise and describe how the practice of agricultural management requires lifelong learning and the constant application of updating skills and technologies.

V2. Demonstrate appropriate professional practice and a strong commitment to high standards of work.

V3. Observe requirements for confidentiality in relation to information provided directly or indirectly, particularly regarding interaction with the wider industry during field trips and in guest lectures, and not carelessly do anything to injure, directly or indirectly, the reputation, prospects or business of an individual or organisation.

V4. Differentiate between different cultural and socio-economic perspectives.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable; a version of this timetable will be updated on Learn.

Lectures are in room S1, unless otherwise notified.

Week beginning	**Monday 11:00am**	**Tuesday 11:00am**	**Tuesday 3:10pm**	**Tuesday 4:10pm**	**Wednesday**	**Thursday 11:00am**	**Friday**
17 Feb	Welcome	Farmer goals and objectives				Functions of management	
24 Feb	Farmer decision making	***FT1: Preview-*** *& observation skills*	*'Drop in'* *Formatting a report*			Land	**FT1: Sheep System**
2 Mar	Labour	***FT1: Review***	*'Drop in'* *Ass 1*			Capital	
9 Mar	***FT2: Preview*** *& Hill country*	Stock reconciliation				**FT2: Hill Country**	
16 Mar	***FT2: Review***	***Assignment 1 due*** *NI Tour Preview*	*'Drop in' budget construction*			Budgets	
23 Mar	'On-line' lecture			**NI Field Tour** 24 to 27th March			
Mid Semester break 30th March to 20th April							
20 April	Budgets (GM)	Budgets (Interpretation)	Risk and sensitivity			Dairy – payment	**Graduation Day**
27 April	**ANZAC Day University closed**	***FT4: Preview***	*Tutorial* *Budget template*		**FT4: Dairy System**	Dairy - Intensification	
4 May	**TBA**	***FT4: Review***	*'Drop in'* *Ass 2 numbers*			TBA	
11 May	Beef systems	Cropping Systems	*'Drop in'* *Ass2 report*		Field trip day *No field trip*	Deer	
18 May	***Assignment 2 due*** *TBA*	Prodn economics *Prof Alison Bailey*				Prodn economics *Prof Alison Bailey*	
25 May	Prodn economics *Prof Alison Bailey*	Prodn economics *Prof Alison Bailey*				Review of MGMT 201	

Learning and Teaching Arrangements

Learning and Teaching Approach

The learning and teaching approach is based on a combination of face-to-face lectures, field trips and a tour, and on-line resources from the course website. Students are strongly advised to make full use of all available learning opportunities

Face-to-face Learning Activities

Lectures & Tutorials as per timetable

Field Trips

Day	*Time*
Friday – 28th Feb	8:15am – 5:00pm
Thursday - 12th March	8:15am – 5:00pm
Wednesday - 29th April	8:15am – 5:00pm

Tour

Day	*Time*
24 to 27 of March (inclusive), the start and end of the tour is in Wellington.	

For both the field trips and tour:

BE ON TIME

Dress appropriately: including footwear with grip, i.e. gumboots or tramping boots, hat, raincoat and if necessary waterproof leggings.

Demonstrate professional practice: Students should conduct themselves with integrity, in a manner which is not detrimental to themselves, their fellow students nor Lincoln University, and in accordance with reasonable expectations of professional persons

Any financial information will be held in confidence: If you are provided with financial or other personal information, especially by commercial farmers, you will keep such information in confidence.

Further information about the field trip / tour will be provided in lectures and on the course LEARN page.

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Other learning activities

Required texts

Askin, D. Askin, V. (2018). *Financial budget manual Volume 40.* Retrieved from https://aginfo.lincoln.ac.nz/manual/financial-budget-manual-vol-40-hard-copy/

Lincoln University. (2018). *Farm technical manual, Volume 24*. Retrieved from https://aginfo.lincoln.ac.nz/manual/farm-technical-manual-vol-24-hard-copy/

Shadbolt, N., & Martin, S. K. (2005). *Farm management in New Zealand.* South Melbourne, Australia; New York: Oxford University Press.
Other valuable references: Beef and Lamb New Zealand. (n.d). *Sheep and Beef Farm Survey*. Retrieved from https://beeflambnz.com/data-tools/sheep-beef-farm-survey DairyNZ. (2017/18). *DairyNZ Economic Survey.* Retrieved from https://www.dairynz.co.nz/publications/dairy-industry/dairynz-economic-survey-2017-18/ DairyNZ. (2017/18). *New Zealand Dairy Statistics* Retrieved from https://www.dairynz.co.nz/publications/dairy-industry/new-zealand-dairy-statistics-2017-18/ Ministry for Primary Industries. (n.d). *Situation and outlook for Primary Industries. Retrieved* from https://www.mpi.govt.nz/news-and-resources/open-data-and-forecasting/situation-and-outlook-for-primary-industries-data/
NZ Agricultural Magazines/Newspapers: Dairy Exporter, Countrywide and the New Zealand Farmers Weekly are useful journals. The Press (newspaper) is useful for up-to-date farming information, in the Friday and Saturday editions.

Assessment

Formal assessment items

Assessment	Weighting	Due date
Tour	4%	Wednesday 22nd April
Assignment 1	16%	Tuesday 17th March
Map	2%	Wednesday 2nd May
Assignment 2	28%	Monday 18th May
Exam	50%	TBA

Assessment Summaries

*Instructions f*or all items of internal assessment will be made available on the course webpage. The instructions will include the date and time the assessment is to be submitted by, and the method of submission. All internal assessment, unless otherwise stated, is to be completed individually.

Final Examination: The final examination is three hours in duration. Material covered during lecture, self-study and online material, review material, assigned readings, field trips and the North Island Field Tour are examinable unless otherwise stated by the Examiner. A review session for the final exam is shown in the lecture timetable.

Penalties: Students who do not submit a reasonable attempt of assignments 1 and 2 may be awarded a grade of NC (Not Complete); a minimum grade of 40% in each assignment is required. In order to be awarded a pass grade in the course students must attain 40 percent or more in the final examination and 50 percent or more in the course overall. A student may receive a grade of F (fail) for this course if he or she obtains a mark of 50 percent or more in the course overall but obtains a mark of less than 40 percent in the final examination.

Mandatory Course Requirements

Field Trips / Tours: Visits to commercial farms/farmers are essential to the teaching of MGMT 201. In a sense, the farms are our 'laboratories'. On farm, we take the case study approach in order to learn about the practical application of farm management. The visits also enable us to take the 'whole farm' approach - studying not only the resources of the farm, but also the manager and his/her management of the farming business. Three case study visits are scheduled (see timetable). Two of

these will be fully interdisciplinary, with four disciplines contributing - MGMT, PLSC, ANSC and SOSC. The case studies involve visiting a variety of farms in the Canterbury region. Normally all-day visits are made. Attendance at all visits (field trips and the Tour) is mandatory. Failure to attend a visit, without the prior agreement of the examiner, will result in a zero (0) mark for any associated assignment and may result in the student not being eligible to achieve a passing grade in this course.

If you are unable to attend a Field Trip day, or the Tour and the reason reaches the threshold in the University regulation 4 (1),

c) Complete an aegrotat form with evidence, and hand into the Faculty administration office.
d) Collect the information required for the assessment from a classmate and complete the test/assignment and be prepared for any related questions in the final exam. You may also find it useful to speak to the member of staff who led the field trip/tour that you were allocated to attend.

   Field Trip day – if the issue is on-going i.e. it affects assignment completion, contact the examiner to discuss.
   Field Tour – let the Field Trip tutor know as soon as possible if you are unable to attend the Tour, and complete steps 1 and 2 above. An alternative assessment maybe provided.

All course material is examinable, if you missed a Field Trip, Tour (or any other course material), and received an aegrotat or not, it is your responsibility to gather the required information.

Field trip groups: students will be allocated to either field trip group (Victoria's or Jacob's). Each group will have separate field trip visits. No student may change their field trip group without prior permission of the Examiner. Attendance at the student's allocated groups' host farm is mandatory, assessment must also be completed based on the students allocated group/field trip, or it will not be marked.

A **four-day field tour** to the North Island is scheduled from 24 to 27 of March (inclusive). The tour is fully interdisciplinary, and **attendance is mandatory**. The start and end point of the tour is Wellington and students are responsible for their travel to and from Wellington.

Health and Safety off-campus

No student may participate in the trips/Tour without completing a medical form, noting medical conditions, allergies & medication, if necessary. The medical forms are on the course page on Learn. Refer to the Code of Conduct for Trips, Tours and other External Activities.

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the ***Universal Course Regulations***.

Office Hours and Feedback Opportunities

Students are welcome to drop by the Examiner's office at other times (although they may not always be available), and to contact the Examiner to make an appointment at a mutually agreeable time. Towards the end of the semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course web page.

Office hours
Dr. Victoria Westbrooke

Day	***Time***	***Room***
Monday	12.00pm to 1.00pm	On Learn
Thursday	12.00pm to 1.00pm	On Learn

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact, e.g. lectures, tutorials, field trips, exams	85
Non-contact Hours	
Self-directed learning, e.g. study, projects, test and exam prep	65
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Academic and Career Skills team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies, career planning and job searching. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, employment and mathematics / statistics skills.

To find out more, log into the website at http://ltl.lincoln.ac.nz or visit Library Teaching and Learning in Ivey Hall. For in-depth questions, book an appointment (via the website) or come to one of our daily "drop ins" - Monday to Friday 10.30-11.30am.

Advice and Support

A range of advice and support services are available to students. These include but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/.

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas.

Appeals Procedure

The appeals framework is designed to enable students' grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Department of Land Management and Systems
Faculty of Agribusiness and Commerce

MGMT 203 Ag Systems & Sustainability
Semester 2, Block 6 and Year 2019

Examiner	Professor Alison Bailey **Room**: C211 **Building**: Commerce **Ph:** 03 423 0226 **Email:** alison.bailey@lincoln.ac.nz
Tutor/s	Elizabeth Burtt **Room**: O001G **Building**: Orchard **Ph:** 03 423 0266 **Email:** elizabeth.burtt@lincoln.ac.nz
Guest lecturer/s	Guest lecturers add significant value to this course. The timetable shows the guests we expect.
Course Prescription	Studies of the sustainable use and management of land with an emphasis on the rationale and balance between technical, social, economic and environmental considerations; issues in resource management.
Prerequisites	Four 100 level papers
Recommended Preparation	One of ECOL103, MGMT103

Course Aims and Learning Outcomes

Aims

Students will develop understanding of the social, environmental and regulatory challenges facing farmers, and the strategies being developed to maintain profitability while enhancing sustainability. Students will be introduced to a range of New Zealand agricultural systems.

These studies will develop understanding in the areas of:

- Concepts including Sustainability, the 'Tragedy of the Commons' and what is meant by 'a social licence to farm',
- Underpinning legislation and community agreements relating to environmental protection: Resource Management Act, National Policy Statement for Fresh Water Management, Land and Water Regional Plans, roles of zone committees, variations at district level
- Matrix of Good Management, Good (and Best) Management Practices, Land and Farm Environment Plans
- Soil management; nutrient budgets; erosion, P and sediment loss and mitigation; N loss mitigation Water and water quality, processes and challenges around sustainable water use
- Habitat and biodiversity management
  Organics and chemical use
- Land use and the role of forestry in environmental management
  Emissions trading and the challenge of carbon
- Climate change, greenhouse gas emissions and mitigation
  Social sustainability, animal welfare

European solutions for environmental management.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1 Understand and apply the concept of "Sustainability" to land management and farming systems.
K2 Understand and evaluate how farming systems impact the environment.
K3 Understand and evaluate the role of the natural environment in the management of land.
K4 Understand and evaluate the role of society in land management.
K5 Apply alternative strategies and management in chosen farm systems.

Skills

S1 Analyse key components of economic, environmental and social systems.
S2 Develop and present a Farm Environment Plan.

Values

V1 Recognise and describe how the practice of agricultural management requires lifelong learning and the constant application of updating skills and technologies.
V2 Demonstrate appropriate professional practice and a strong commitment to high standards of work.
V3 Observe requirements for confidentiality in relation to information provided directly or indirectly, particularly regarding interaction with the wider industry during field trips and in guest lectures, and not carelessly do anything to injure, directly or indirectly, the reputation, prospects or business of an individual or organisation.
V4 Differentiate between different cultural and socio-economic perspectives.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable. Guest lecturers provide added viewpoints and information to the course. Field trips are included to give further insights and topics for discussion.

Week beginning	Week	Mon 1400 hours	Tues 1400 hours	Wed 1500-1700 hours	Thurs 1400 hours	Friday (no lectures)	Key dates
15 July	1	Course overview	Social licence to farm Key Concepts: resource use and pollution		Resource Management Act Introduction to Perusall		Perusall assignment starts (5%)
Lecturer		AB	AB		AB		
22 July	2	ECan: vision	Farm Environment Plans Land use classification	Field Trip Day MGMT 202	Maori Concepts of sustainability		Presentations start (10%)
Lecturer		(tbc)	AB		Hirini Matunga		
29 July	3	Introduction to the Farm Environment Plan Project, Beef and Lamb Template	P loss – the issues		P mitigation strategies		
Lecturer		AB	AB		AB		
5 August	4	Field Trip Day: Farm Environment Plan Tim and Gill Wilson, Cooptown, Springvale	No lecture		Nitrogen losses – the issues		Major project starts (30%) Perusall assignment, due 12pm, 9 Aug
Lecturer		AB			AB		
12 Aug	5	Nitrogen mitigation strategies	Nutrient budgets: Overseer	Intensive Dairying and strategies to reduce pollution, Ashley Dene	Assignment tutorial (optional)		
Lecturer		AB	Jim Moir	Omar Al-Marashdeh	AB		
19 Aug	6	Assessing water quality. Case Study Harts Creek, Te Waihora (Lake Ellesmere)	Field Trip Day MGMT 202	Waterwatch visit, Harts Creek	Review of issues and solutions		Hand in FEP Project, due 12pm, 23 August
Lecturer		Waterwatch		Waterwatch			
Mid Semester break 26 August to 6 September							

Week beginning	Week	Mon 1400 h	Tues 1400 h	Wed 1500-1700 h	Thurs 1400 h	Friday (no lectures)	Key dates
9 Sep	7	Habitat and biodiversity	Agriculture and biodiversity – can nature play a valued role in agricultural systems?		Synlait – Lead with Pride (The market rules!)		
Lecturer		AB	Wendy McWilliam		Emma Brand and Ryan MacArthur		
16 Sep	8	Chemicals: good or bad	Organics: the answer		Farming carbon	Field Trip Day MGMT 202	
		AB	AB		AB		
23 Sep	9	Forestry as a rural land use	Forestry as a rural land use	TEST	International marketing trends – how to get to win win		Test (15%)
Lecturer		Juliano Oliveria	Juliano Oliveria		Caroline Saunders		
30 Sep	10	Climate change and agriculture	Climate change and agriculture		Field Trip Day: Contrasting dairy systems, Jeremy and Kim Casey, Back Track Dairies, Lauriston		
Lecturer		AB	AB		AB		
7 Oct	11	Social sustainability: What concerns farmers?	Social sustainability: Managing labour		Social sustainability: Animal welfare		
Lecturer		AB	Jacob Kambuta		(tbc)		
14 Oct	12	European strategies	Review and discussion				
Lecturer		AB	AB				

Learning and Teaching Arrangements

Learning and Teaching Approach

The learning and teaching approach is based on a combination of face-to-face lectures, interactive lecture/tutorials and on-line resources from the course website. Students are strongly advised to make full use of all available learning opportunities. Readings provided are a must read.
Guest lecturers provide industry and specialist perspectives on wide ranging topics.
There will be four field trips to University and commercial units during the semester. Two take place on field trip days. Two take place from 3.00pm during the Wednesday afternoon slot. We aim to return to campus by 5pm but this may not always be possible. Please allow 3 hours for these visits. Please: **BE ON TIME.** Meet in the Orchard car park. **Dress appropriately.** Boots or good shoes, not jandals or light sandals. A reasonable standard of dress will be required. Take rain gear if damp conditions are expected. **Demonstrate professional practice.** Students should conduct themselves with integrity, in a manner which is not detrimental to themselves, their fellow students nor Lincoln University, and in accordance with reasonable expectations of professional persons. All information, including financial data provided by the farmer will be held in confidence. Be courteous to the owner or management, regardless of what you think of their management.

Face-to-face Learning Activities

Lectures

Day	Time	Room
Monday	2.10pm – 3.00pm	B4
Tuesday	2.10pm – 3.00pm	B4
Wednesday	No lecture: see below	
Thursday	2.10pm – 3.00pm	B4

Test

Day	Time	Room
Weds 25 September	3.10pm – 4pm	tbc

Field Trip / Tour

Day	Time	Topic and Location
Monday 5 August	8.30am – 5.30pm	Farm Environment Plan, Tim and Gill Wilson, Cooptown, Springvale
Wednesday 14 August	3.10pm – 5.00pm	Intensive dairying and strategies to reduce pollution, Ashley Dene
Wednesday 21 August	3.10pm – 6.00pm	Water quality, Waterwatch, Harts Creek
Thursday 3 October	8.30am – 5.30pm	Contrasting dairy systems, Jeremy and Kim Casey, Back Track Dairies, Lauriston

Further information about the field trips will be provided in lectures and on the course LEARN page.

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Lecture PowerPoints and some notes may be put on the LEARN site prior to or soon after the relevant lectures. Please note some guest lecturers prefer not to provide their presentations, either beforehand or at all.

Other learning activities

Due to the contemporary nature of topics being studied no "class textbook" is provided; however, selected readings and articles will be provided to the class via a course manual, available at the start of the course, and online on the LEARN site.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Teaching on Field Trip Days

Face-to-face activities and office hours **will not** be held on field trip days, except for Monday 5 August and Thursday 3 October which are field trip days for this course. Any student who feels that they might be disadvantaged by this should contact the examiner so that alternative arrangements can be made.

Equipment to purchase

Boots or good shoes, plus rain gear required for field visits.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered
Perusall readings	5%	Friday 9 August	K1, K4, S1
Topical issue presentation	10%	Throughout semester As individually advised	K2, K3, K4, S1, V1, V4
Project	30%	Friday 23 August	K2, K3, K5, S2, V1, V2, V3
Test	15%	Wednesday 25 September, 2.10pm	K2, K3
Exam	40%	tbc	K2, K3, K4, S1, V1, V4

Assessment Summaries

Perusall Readings

There are two 'readings' on LEARN. Instructions will be provided in class at the end of the first week and on LEARN. You will be automatically allocated to groups. You are required to read each document and annotate the readings with comments and/or ask questions. You may respond to others comments and questions. You should complete the reading and provide comments etc. by Friday 9 August 12pm. Marks will be allocated according to the level of interaction and usefulness of the comments, questions and responses. The interaction contributes to a maximum of 5 (five) percent of the final grade.

Topical Issue Presentation

You will present in a group of 2 or 3 students in one of the lectures starting from Week 2. Your presentation will be on the topic assigned to you in that week. You will present as a group before the lecture itself starts, then lead the questions in the class forum at the end of this lecture. The presentation contributes to a maximum of 10 (ten) percent of the final grade. Instructions will be made available on the course LEARN page.

Farm Environment Plan Project

The Farm Environment Plan project is to be submitted by 12.00pm on Friday 23 August in the class project box in the east corner of the ground floor, Orchard Building. An electronic copy should also be submitted in the LEARN drop box by 12.00pm on the same day. The assignment is to be completed individually. The assignment contributes to a maximum of 30 (thirty) percent of the final grade. Instructions will be made available on the course LEARN page.

Test

The test will be 45 minutes in duration and will be held during lecture time on Wednesday 25 September. The test will consist of a number of questions based on material provided during lectures and additional readings from the course study guide. The test contributes to a maximum of 15 (fifteen) percent of the final grade.

Final Examination

The final examination is two hours in duration. Material covered during lecture, self-study and online material, review material, assigned readings and supplementary material are examinable unless otherwise stated by the Examiner. A review session for the final exam will be held in the last week of lectures.

Penalties

Students who do not submit a reasonable attempt of the following items of internal assessment may be awarded a grade of NC (Not Complete): Farm Environment Plan and Test.

In order to be awarded a pass grade in the course students must attain 40 percent or more in the final examination and 50 percent or more in the course overall. A student may receive a grade of F (fail) for this course if he or she obtains a mark of 50 percent or more in the course overall, but obtains a mark of less than 40 percent in the final examination.

Mandatory Course Requirements

Field Trips

Attendance on all field trips is mandatory. Failure to complete a mandatory part of the course, without the prior agreement of the examiner will result in a fail grade for the course.

If you are unable to attend a Field Trip day and the reason reaches the threshold in the University regulation 4 (1),

Complete an aegrotat form with evidence, and hand into the Faculty administration office

Collect the information required for the assessment from a classmate and complete the assignment and be prepared for any related questions in the final exam. You may also find it useful to speak to the member of staff who led the field trip that you were allocated to attend.

If the issue is on-going i.e. it affects assignment completion, contact the examiner to discuss.

All course material is examinable, if you missed a Field Trip, and received an aegrotat or not, it is your responsibility to gather the required information.

Sub-minimums
Presentation Standards:

All professionals should be capable of quality report writing and presentation. Presentation requirements for the Farm Environment Plan submitted for this course are outlined in the guidance provided on the MGMT 203 LEARN site, a template is also provided. Additional guidance is available from other courses which you may be taking or have taken, e.g. the MGMT 103 Research and Writing Guide, the MGMT 201 Step by Step Guide, MGMT 202 Report Guide. All assignments must meet the minimum presentation standards. Failure to achieve the sub-minimum will result in the student not being eligible to achieve a passing grade in this course.

Cover Sheet
Every assignment must be submitted with a cover sheet.

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations*.

Office Hours and Feedback Opportunities

Office hours
Alison Bailey
alison.bailey@lincoln.ac.nz

Day	Time	Room
Monday	3.00pm - 4.00pm	C211
Tuesday	3.00pm - 4.00pm	C211

Students are welcome to drop-by the Examiner's office at other times (although they may not always be available), and to contact the Examiner to make an appointment at a mutually agreeable time. Towards the end of semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Guest lecturers

Professionals from a range of industry sectors will presente lectures on relevant and topical issues. The provision of guest lecturers is dependent upon availability of external individuals and may be affected by external circumstances.

Health and Safety off-campus

Field Trips: full details will be provided separately. Refer to the Code of Conduct for Trips, Tours and other External Activities.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Lectures	30
Tutorials	1
Field trips	30
Non-contact Hours	
Self-directed learning, including exam preparation	25
Topical issue presentation	4
Perusall	2
Project	40
Test	16
Exam	2
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Academic and Career Skills team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies, career planning and job searching. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, employment and mathematics / statistics skills.

To find out more, log into the website at http://ltl.lincoln.ac.nz or visit Library Teaching and Learning in Ivey Hall. For in-depth questions, book an appointment (via the website) or come to one of our daily "drop ins" - Monday to Friday 10.30-11.30am.

Faculty Student Liaison

The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact **Nicos Tescos** – he is here to listen to you and help. **Nicos Tescos** can be found in Orchard 001C or contacted on **Nicos.Tescos@lincoln.ac.nz.**

Advice and Support

A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support, Students' Association, Student Health, Counselling, and Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps

A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students' grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH·NEW ZEALAND
New Zealand's specialist land-based university

Department of Soil and Physical Sciences
Faculty of Agriculture and Life Sciences

PHSC 101, Chemistry 1A
Semester 1, Block 7, 2019

Examiner
Dr Niklas Lehto
Room: B221
Building: Burns
Ph: 03 423 0796
Email: Niklas.Lehto@lincoln.ac.nz

Lecturer/s
Dr Rosalind Dodd
Room: B222
Building: Burns
Ph: 03 423 0790
Email: rosalind.dodd@lincoln.ac.nz

Dr Janet Bertram
Room: B128
Building: Burns
Ph: 03 423 0772
Email: janet.bertram@lincoln.ac.nz

Tutor
Dr Janet Bertram
Email: janet.bertram@lincoln.ac.nz

Course Prescription	An introduction to atomic theory and periodicity; chemical quantities and equilibria. The classification and nomenclature of organic compounds and their physical and chemical properties.
Prerequisites	None
Recommended Preparation	None
Restrictions	None

Course Aims and Learning Outcomes

Aims

The main aims of this course are:

- p To provide students with the basic theory of inorganic and organic chemistry essential to careers in applied sciences (including biological and environmental science) and science-based agriculture and viticulture and oenology.
- q To provide a chemistry laboratory experience that builds upon and complements the theory presented in lectures and also develops essential skills in numeracy, experimentation, analytical technique and data handling.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1: Use the periodic table to demonstrate an understanding of periodicity, chemical bonding and molecular structure, and intermolecular forces.
K2: Describe the equilibria characteristics of aqueous systems, including solubility and acid-base equilibria.
K3: Describe the general physical and chemical properties of selected classes of organic compounds.

Skills

S1: Function in a chemistry laboratory with competence and safety.
S2: Recognise molecular asymmetry (chirality): classify and name simple organic compounds using formal international nomenclature systems (I.U.P.A.C., D-L and R-S).
S3: Carry out basic chemical calculations using theoretical and experimental data.

Values

V1: Apply the scientific method and correctly interpret the results of scientific studies.
V2: Collect, process and interpret data in a variety of contexts.
V3: Employ the scientific method to solve problems both independently and as part of a team.
V4: Be organised and manage time and resources effectively and efficiently.
V5: Use self-directed learning in later life or career development.

Course Content

The following tables give an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable. Any changes will be notified in the lectures.

Topic	Lecturer
Basic Atomic Theory and Periodicity of the Elements (8 lectures) **Lectures 1 and 2. Atomic structure:** *Size of atoms, protons, neutrons & electrons, atomic mass, isotopes, introduction to quantum phenomena.* **Lecture 3**. **Electronic structure and periodicity:** *Electron orbitals, spdf configurations, valence electrons, atomic radii, electronegativity & metallic character.* **Lecture 4**. **Chemical formulae:** *Ions, molecules, chemical compounds, chemical formulae.* **Lecture 5**. **Chemical bonds and molecular structure:***Polar & non-polar covalent bonds, ionic bonds, Lewis structures.* **Lecture 6**. **Molecular shape and intermolecular forces:** *Valence Shell Electron Pair Repulsion (VSEPR) theory. Intra- vs. intermolecular forces, dispersion (London forces).* **Lecture 7**. **Intermolecular forces and chemical equations:** *Ion-dipole, dipole-dipole, hydrogen bonding. Balancing chemical equations, formulae of ionic compounds.* **Lecture 8. Chemical reactions**: *Recognizing and balancing acid/base and oxidation/reduction reactions.*	**Janet Bertram**
Chemistry Calculations and Chemical Equilibria (13 lectures) **Lectures 9-10. Moles:** *Relative atomic masses and the mole. Calculation of molar mass. Converting moles to mass. Reaction yields.* **Lectures 11-12. Chemistry calculations:** *Preparation of solutions with known concentrations; mass balances; units of concentration.* **Lecture 13-15. Chemical equilibrium:** *The concept of equilibrium; equilibrium constant (K).* **Lectures 16-18. Solubility Equilibria:** *Solubility equilibria; solubility product (K_{sp}); Le Chatelier's principle.* **Lectures 19-21. Acid-Base Equilibria:** *Proton transfer; acid-base properties of water; pH; acid-base strength; buffer solutions; titration; indicators.*	**Rosalind Dodd and Janet Bertram**
Organic Chemistry (14 Lectures) **Lecture 22-25. Introduction and Hydrocarbons:** *Bonding in organic molecules; I.U.P.A.C nomenclature system for saturated and unsaturated hydrocarbons: alkanes, alkenes and alkynes; physical and chemical properties of saturated hydrocarbons; introduction to constitutional and geometrical isomerism; stereochemistry of addition reactions; benzene and other aromatic systems.* **Lecture 26. Alkyl Halides:** *Nomenclature; synthesis and reactions of alkyl halides: SN1, SN2 and elimination reactions.* **Lecture 27. Alcohols, Ethers, Thiols & Thioethers:** *Nomenclature; physical properties of the homologous series of n-alcohols; reactions of alcohols and thiols.* **Lecture 28-30. Carbonyl Compounds:** *Nomenclature of aldehydes, ketones and carboxylic acids*; *addition reactions to the carbonyl group (selected examples). Physical properties (including boiling points and solubilities). General reactions and acidity & resonance stabilisation of carboxylic acids.* **Lecture 31. Amines and Amides:** *Nomenclature; physical and chemical properties; quaternary ammonium salts, shampoo.*	**Niklas Lehto**

Lecture 32. Optical Isomerism: *Optical isomerism; properties of enantiomers (selected examples) and racemates.* **Lecture 33. Esters:** *Nomenclature; synthesis; selected examples from nature; fats; saponification; synthetic dairy products.* **Lecture 34-35. Introduction to biomolecules: –** Lipids: *Fatty acids*, *tri-* and *phosphoglycerides, micelle formation***.** Amino Acids: *Structures; properties (physical and chemical), peptide formation;* Carbohydrates: *Definitions (mono-, di- etc saccharides) structures of starch and cellulose.*	

Lecture Schedule

Week starting	Tuesday 9 am	Wednesday 10 am	Thursday 9 am
18-Feb	JB	JB	JB
25-Feb	JB	JB	JB
4-Mar	JB	JB	RD
11-Mar	RD	RD	RD
18-Mar	RD	RD	RD
25-Mar	RD	RD	RD
1-Apr	JB	JB	JB
8-Apr	MID-SEMESTER BREAK		
15-Apr			
22-Apr			
29-Apr	TERM TEST	NL	NL
6-May	NL	NL	NL
13-May	NL	NL	NL
20-May	NL	NL	NL
27-May	NL	NL	NL

JB: Dr Janet Bertram; RD: Dr Rosalind Dodd; NL: Dr Niklas Lehto

- **Laboratories**

The laboratory programme begins on Monday 25th February, and is designed to complement the course material presented in lectures.

Note the following:

p The laboratory timetable is included in the laboratory manual together with important information on laboratory conduct and safety; each student **MUST** purchase a copy of the laboratory manual from the university bookshop (or print from the Learn page) prior to the first laboratory class.

q ***An approved form of eye protection (e.g. safety glasses) and a lab coat must be brought to every laboratory session and be worn as instructed by staff.***

r There are **SIX** laboratory streams (**Monday 2.10-5.00; Tuesday 2.10-5.00; Wednesday 11.00-1.50pm; Wednesday 3.10-6.00 pm; Thursday 2.10-5.00; Friday 10.00-12.50**). **Stream allocation will be explained at the first lecture – registration will be available on the PHSC101 Learn page and students will be responsible for selecting an appropriate laboratory stream - note that numbers allowed in each laboratory stream are strictly limited.** Remember that other 100 level courses also have multiple laboratory streams (e.g. BIOS 110, PHSC 107) or tutorials (e.g. MGMT 103).

s **Students who are repeating this course should contact Dr. Lehto by email (Niklas.Lehto@lincoln.ac.nz) during the first week of the semester (on or before Friday 24th**

February 2018) to discuss their eligibility for a partial waiver of assessment. ***It is strongly recommended that students who previously achieved < 60% lab mark retake the lab course.***

Learning and Teaching Arrangements

Learning and Teaching Approach

The course provides a range of delivery methods and learning opportunities for students including lectures, workshops, self-study material, interactive on-line material, group work, and office hours. Students are strongly advised to make full use of all available learning opportunities
This course is taught in a lecture format with the lecturers being open to questions during the lectures. Each week a 3-hour laboratory will be run, with six lab streams available. These are designed to complement the subject material presented in the lectures, and each student should sign up to **one** laboratory stream.
Extra Learning Support: Library, Teaching & Learning will be coordinating PASS sessions for this course. These are run by students who have previously completed this paper. The sessions will be run throughout the semester, with times to be decided during the first week of lectures. Please contact PASS@lincoln.ac.nz for futher information. The Chemistry Support Course will also run this semester, at a time to be decided. Material for this course is available on the Learn page. This includes worksheets and extra questions and answers. This material can be used to preview or review the lecture material. For further information please contact Dr Janet Bertram (Janet.Bertram@lincoln.ac.nz; B128).

Face-to-face Learning Activities

Lectures

Day	*Time*	*Room*
Tuesday	9am	S2
Wednesday	10am	S2
Thursday	9am	S2

Labs (choose 1 stream)

Day	*Time*	*Room*
Monday	2.10pm*	B133
Tuesday	2.10pm	B133
Wednesday	11.00am	B133
Wednesday	3.10pm	B133
Thursday	2.10pm	B133
Friday	10.00am	B133

*if required

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means

of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Copies of the course outline and previous final examination scripts are available at this site, as well as selected lecture notes and support material.

Tutorials
A series of tutorials based on previous examination questions will be organised during semester.

Textbooks
Prescribed textbook (available from the Lincoln University bookshop):
Chemistry. Blackman, Bottle, Schmid, Mocerino and Wille - Fourth Edition (2018)
John Wiley and Sons.
TWO copies of the textbook will be available on restricted loan from the Library (2 hour loan).

Equipment to purchase
An approved form of eye protection (e.g. safety glasses) and a lab coat**.**

Teaching on Field Trip Days
Face -to-face activities and office hours ***will*** be held on field trip days. Any student who feels that they might be disadvantaged by this should contact the examiner so that alternative arrangements can be made.

Please note that the scheduled programme of lectures and laboratories for PHSC 101 WILL operate on field trip days. Attendance at laboratories is compulsory (see below); accordingly, if a field trip for another course coincides with your designated PHSC 101 laboratory, please consult Dr Janet Bertram **in advance** to arrange an alternative laboratory stream for that week. There are five designated field trip days scheduled throughout the semester (1 March, 13 March, 2 April, 6 May, 16 May).

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered	Key Resources
Term test (lectures 1–18)	15%	9.00 am, Tue 30th April	K1, K2, S3, V3, V4, V5	Lecture notes.
Chemistry numeracy assessment (lectures 12-13)	10%	4 pm, 4th April	S1, S3, V4, V5	Lecture notes and laboratory work
Complete weekly assignments	4%	5 pm every Monday during teaching time, starting 25th Feb.	K1, K2, K3, S2, S3, V1, V2, V3, V4, V5	Lecture notes and laboratory work
Laboratory assessment *(quizzes, reports, practical test)*	30%	Ongoing	K1, K2, K3, S1, S3, V1, V2, V3, V4, V5	Laboratory manual and Lecture notes
Final Examination (all lectures)	40%	TBA	K1, K2, K3, S2, S3, V1, V2, V3, V4, V5	Lecture notes and Laboratory manual.
Attend one PASS Session	1%	1st June	K1, K2, K3, S2, S3, V2, V3, V4, V5	Lecture notes and laboratory work

Penalties

Students who do not submit a reasonable attempt of the following items of internal assessment may be awarded a grade of NC (Not Complete): Laboratory Assessment and Test.

In order to be awarded a pass grade in the course students must attain 40 percent or more in the laboratories and 50 percent or more in the course overall. A student may receive a grade of F (fail) for this course if he or she obtains a mark of 50 percent or more in the course overall, but obtains a mark of less than 40 percent in the laboratory assessment.

Course Requirements:

- To gain a pass in PHSC101 a student **must** fulfil the following criteria:

  Sit the term test;

  Complete the laboratory programme and achieve a total mark of at least 40% for the laboratories;

  Sit the final exam; and

  Achieve an overall mark of 50%.

- **Attendance at tests and laboratories is compulsory.** Unsatisfactory attendance or performance in the laboratory course may result in credit for this course being withheld. If you are unable to be present at laboratories because of illness or some other reason you may be exempted on production of a medical certificate or a suitable explanation **IN WRITING or VIA EMAIL** to Dr Janet Bertram (janet.bertram@lincoln.ac.nz; B128). Whenever possible, students should be proactive in notifying the tutor **in advance** of anticipated absence.

- All PHSC101 students are expected to undertake an **online assessment of their chemistry numeracy**. The test can be attempted twice by each student during the first half of the semester, from which the higher mark will be carried forward. There will be a limited amount of time within which to undertake each attempt.

- All PHSC101 students are expected to complete a weekly online assignment specific to the lecture material that week. The assignments can include: reading a piece of text, watching a video, and/or passing a short quiz online. There is no limit to the number of times the assignment can be attempted, but they must be completed by 5 pm each Monday between 25th Feb – 1st April, 29th April – 3rd Jun. Marks for successful completion of the assignments will be awarded *pro rata*, up to a maximum of 4% of the final mark.

- 1% bonus mark is awarded for attending one full PASS session during the course.

Late Submission of Assessment
Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a mark of zero. University regulations apply for the final examination.

Academic Dishonesty
The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations and Policies*

Office Hours and Feedback Opportunities

Students are welcome to drop-by the Examiner's office (although they may not always be available), and to contact the Examiner to make an appointment at a mutually agreeable time. Towards the end of semester students will be consulted about what additional support they require before the final examination. Students will be advised of the details via the News Forum on the course webpage.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Students are advised to seek help early if they are having difficulties with this course. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Student Evaluations

This course will be formally evaluated this year.

Safety

Safety in the laboratory is the responsibility of all participants in the labs. An approved form of eye protection (e.g. safety glasses) and a lab coat must be brought to every laboratory session and be worn as instructed by the staff. All students must wear shoes that completely enclose the foot and have flat non-slip soles. Failure to follow safety guidelines may lead to students being asked to leave the laboratory.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact, e.g. lectures, tutorials, field trips, exams	68
Non-contact Hours	
Self-directed learning, e.g. PASS sessions, study, projects, test and exam prep	82
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning
The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Advice and Support
A range of advice and support services are available to students. These include, but are not restricted to Inclusive Education (support for illness, injury and disability), International Student Support, Māori Student Support and Students'' Association, Student Health, Counselling, Pastoral Support. For details please visit: http://www.lincoln.ac.nz/student-life/student-support/

Student Reps
A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support
The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure
The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

PLSC 104 Plant Science 1

Semester 2, 2019 - Block 4

Examiner:

Dr Alan Gash
Room 175
NRE Building
Phone: (03) 4230699
Email: Alan.Gash@lincoln.ac.nz

Lecturers:

Dr. Mitchell Andrews
Room 102
Field Research Centre Building
Phone: (03) 4230692
Email: Mitchell.Andrews@lincoln.ac.nz

Dr Juliano Oliveira
Room 103
Field Research Centre Building
Ph: (03) 423 0703
Email: Juliano.Oliveira@lincoln.ac.nz

Dr Rainer Hofmann
Room 082
RFH Building
Phone: (03) 4230604
Email: Rainer.Hofmann@lincoln.ac.nz>

Dr Tom Maxwell
Room 107
Field Research Centre Building
Phone: (03) 4230671
Email: Tom.Maxwell@Lincoln.ac.nz

Laboratory technician:

Judith Kidd
NRE Teaching Workshop 029,
Phone: (03) 4230669
Email: Judith.Kidd@lincoln.ac.nz

Prerequisites: N/A

Recommended Preparation: N/A

Course aims and learning outcomes

Prescription

An introduction to the structure and function of higher plants.

Aims

To provide an introduction to understanding the principles underlying how environmental factors affect plant growth in a range of plant types, as a pre-requisite to being able to modify these factors to advantage.

Learning Outcomes

After successfully completing this course students will be able to:

Knowledge

p Describe the basic evolutionary relationships between different plant families and the significance of these in terms of form and function.
q Describe the major physiological processes that occur in higher plants.

Skills

p Identify major economic plants and common weeds of importance in primary production.
q Apply appropriate botanical terms to describe the form and function of agricultural, horticultural and native higher plants.

Values

5. Adhere to scientific research values and models

Contributions of this course to the graduate profile

The course provides the basic understanding of the fundamental theory of plant biology and provides students with opportunities to: locate, evaluate and use information in a range of contexts. (information collected and analysed in lectures and laboratory classes); be organised and manage time and resources effectively and efficiently (group work assignment); co-operate with colleagues, competence in teamwork (group work assignment; laboratory classes); and use self-directed learning in later life or career development (several assessments).

Learning and Teaching Arrangements

Learning and teaching approach

This course is taught in lecture format and each week there is a two hour laboratory which is more interactive.

Online learning activities

Formally registered students in this course will be able to access the course Learn site via http://learn.lincoln.ac.nz. The online resources will allow access to key deeper and supplementary readings on subjects raised in lectures. The site will also allow access to lecture notes and to key websites and online activities that support the course.

Face-to-face learning activities

Lecture times

Day	Time	Room
Tuesday	9.00 am	S1
Wednesday	10.00 am	S1
Thursday	9.00 am	S1

Laboratory times

Day	Time	Room
Tuesday	12.00 to 1.50 & 3.10 to 5.00	NRE 029 NRE 029
Wednesday	1.10 to 3.00 3.10 to 5.00	
Thursday	11.00 to 12.50	NRE 029

Other learning activities

The recommended textbook for this course is: Botany An Introduction to Plant Biology (6th Edition) by James D. Mauseth, which is available in the library. You can also get information from books such as Campbell Biology and Plant Biology (see below), both of which are available in the library. More support readings and links are available on the Learn at Lincoln site for the course.

Mauseth, J.D., Botany 6th Edition, Jones & Bartlett.
Graham et al., Plant Biology 3rd Edition, LJLM Press.
Urry et al., Campbell Biology 11th Edition, Pearson Education.

Recommended reading:

Chrispeels, M.J. & Sadava, D.E. Plants, Genes and Crop Biotechnology.
Horn, P.E., Plant Morphology, Lincoln University.
Horn, P.E. & Hill, G.D. What Legume is That, CRM Special Publication No5.
Langer, R.H.M. & Hill, G.D. Agricultural Plants, Cambridge University Press.

Office hours and other feedback opportunities

Staff teaching on the course are happy to talk to students after lectures or to answer questions by email. Most staff have an open-door policy but would prefer if students organise a time in advance by email.

Student workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a pass grade. The total student workload for the course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in the course is based on how well a student performs, not on the time committed to studying; no matter how many hours a student puts into the course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours might be allocated:

Contact Hours:	
Lectures:	35
Laboratories:	22
Non-Contact Hours:	
Study	47
Preparation for tests	10
Time in test/practical exam	3
Preparation for final Exams	20
Time in Exam	3
Project	10
Total Student Workload:	150 hours

Assessment

Formal assessment items

Assessment	Due date	Weighting %	Learning outcomes covered	Key resources
Seed Germination Report	By 12.00 midnight on Sunday 25th August 2019 On-line marking by midnight, Monday 9th September 2019	15%	2,3,4,5	Information provided in lab classes.
Quizzes (10 in total)	Weekly in weeks 2 to 11 inclusive.	5%	1,2,3,4	Lecture material
Mid- semester Test	9.00 am Thursday 22nd August 2019	15%	1,2,3,4	Course notes; Learn @ Lincoln site
Practical Exam	Week commencing 15th October 2019	20%	1,2,3,4	Lab class notes; Learn @ Lincoln site
Final Exam	TBA- during exam week.	45%	1,2,3,4	All

Penalties and mandatory course requirements:

Extensions/lateness: Students will lose 10 % per day, unless mitigating circumstances are discussed with the examiner BEFORE the deadline. In the event of a test being missed because of illness, a medical certificate must be produced.

Minimum pass marks: Each assessment must be passed with a minimum mark of 30%.

Course Content

See separate sheet on the course Learn @ Lincoln site.

Appendix A - Universal Regulations, Policies and Support

Late Start of Course

It is the student's responsibility to catch up - the course lecturer is only required to provide a course outline and a full set of all class handouts to date.

In the assessment of such students the course examiner will normally assume that they have been present from the outset - for any course exercises and tests due before they joined they will therefore be given nil marks. Students who appeal this policy to the Dean, Faculty of AGLS, may be granted assessment credits if they are able to provide other evidence of attainment in areas already tested.

Cheating and Plagiarism

The penalties for any form of cheating or plagiarism, whether in exams or term work, are severe. Written work submitted must be your own. Any sources of information used in completing your work must be identified. Plagiarised written work will not be accepted and you should be aware that non-acceptance of a submission might, in some cases, lead to failure in the course. Lincoln University Regulations F (Calendar 2012) spell this out in more detail under 'Dishonest Practice and Breach of Instructions' and students should also refer to http://learn.lincoln.ac.nz for further information regarding the University and Faculty's policy on dishonest academic practice.

The University reserves the right to check the originality of any work submitted by a student. Lincoln University has subscribed to a software programme called Turnitin that helps to identify material that has been copied from other sources. An electronic version of any item of a student's work might be submitted to Turnitin.

Formal Examination Rules

Examinations are governed by the rules outlined in the document located on the Lincoln website at:
http://learn.lincoln.ac.nz/learn/file.php/1/Exam_Rules_master_as_at_27_05_10.doc .
Students should note in particular the rule regarding the prohibited use of cell phones, electronic dictionaries or other electronic devices.

Policy on scaling and any other relevant issues

In the case of accepted aegrotat applications etc., scaling will be conducted with reference to other achievements of both the student and the overall class.

Prior Approvals for External Contacts/Surveys

As a student at Lincoln your actions reflect on the integrity and professionalism of not only yourself, but also your fellow students and the University. For this reason, prior approval must be obtained from the examiner before you contact any organisations for information or research requirements related to this course.

Library Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

Turn Over . . .

To find out more, log into the website at http://library.lincoln.ac.nz or visit the iZone in the Library. iZone staff will provide help with finding and using information in assignments, referencing, Endnote and computer problems.

Inclusive Education

Inclusive Education supports students with a disability, injury or illness. Its goal is to lessen the impact of a condition or situation on study and assessment. Students with a wide range of long-term impairments, such as sensory issues, a specific learning disability or medical and mental health conditions, obtain appropriate strategies to enable them to show their ability. Support is also available for those with short-term situations such as a cold, a broken arm or bereavement. For appointments, phone: 325 3838 extension 8866 or e-mail inclusive@lincoln.ac.nz. The Inclusive Education Co-ordinator's office is Hud 003, at the south end of Hudson Hall (near the hedge).

Appendix B - Code of Conduct – Trips, tours and other external activities

1.0 General

Students on field trips and tours are expected to behave at all times with due consideration for others, and in a manner which reflects well on themselves and the University. Students are expected to uphold the good reputation of the University both for present students and for those who will follow after them.

2.0 Attendance

2.1 Students, while on field trips and tours, are required to attend all formally organised activities unless granted an exemption from a specific part by a member of staff.

2.2 Students are not to leave the group while on any visit, except with prior approval from a member of staff.

3.0 **Attire**

Students are to be dressed neatly and appropriately at all times, and are expected to comply with the standards of dress required by hotels or motels in their restaurants and bars. The staff member in charge (or his or her representative) will be the sole arbiter of what is suitable.

4.0 Alcohol and other recreational drugs

4.1 Alcohol or other recreational drugs are not to be taken onto or consumed in buses or other forms of transport.

4.2 Alcohol or other recreational drugs are not to be taken into or consumed in hotel bedrooms or motel rooms, unless authorised by the staff member conducting the tour.

4.3 Overindulgence in alcohol or other recreational drugs that affect a student's behaviour may result in disciplinary proceedings.

5.0 Noise

Noise is to be kept to a reasonable level at all times. Any request by members of the public, fellow students or staff to reduce the noise level must be respected.

6.0 Visitors

Students entertaining visitors are expected to make them fully conversant with these conduct guidelines. Students may be held responsible for any breaches committed by their visitors.

7.0 **Disciplinary Regulations**

Students should make themselves familiar with the University Disciplinary Regulations that are found in the Calendar. Particular attention should be paid to the clause on Misconduct reproduced here:

7.1 No student shall:

- wilfully or recklessly damage or deface, or wilfully move without authority any property of the University or any other property within the University precincts;
- act in a manner contrary to the good government of the University, or prejudicial to its functioning as such, or bring, or tend to bring, discredit on the University;
- wilfully impede the activities of the University, whether in teaching, research, or otherwise;
- wilfully create any nuisance in or on the University precincts;
- wilfully obstruct any officer or member of the University or any person employed at the University in the due performance of the functions or of the work that officer or other member or person is required to perform;
- be in part of the University precincts in which that student is not at the time, entitled to be, knowing that he or she is not entitled to be there at that time;
- fail to comply with the directions on any notice erected with the authority of the Council relating to the entry, speed or exit of vehicles, and the location of parking spaces;
- commit a breach of any University statute or regulation or of any rule of conduct made by any person authorised by the Council or the Academic Board to make such rules, provided that the statute, regulation or rule has been published in the University Calendar or that reasonable notice thereof has been given by other means to students generally or to the student charged with misconduct, before the misconduct is alleged to have taken place;
- harass any member of the University with offensive or unwanted sexual or non-sexual behaviour which limits his or her capacity to study or to enjoy the University amenities;
- commit any dishonest or improper practice in relation to formal examinations, tests or other work being taken for credit;
- knowingly fail to comply with any reasonable direction given to that student by the person in charge of a group of students going to, engaged in, or returning from a field trip or any other academic activity conducted by the University beyond the University precincts, or, while a member of such a group, do anything which would constitute misconduct if done within the University precincts.

7.2 Any student who is party to an offence under these regulations committed by another student shall be liable to be charged with the same offence and be subject to the same disciplinary proceedings.

In this regulation 'a party' includes any student who in any way aids, assists, counsels, procures or encourages another to commit an offence under these regulations.

8.0 Breaches

Breaches of the regulations will result in the student being reported to the University Proctor.

9.0 Termination

Where the staff member in charge of the field trip or tour considers any student is guilty of serious misconduct he/she may require that student to leave the field trip or tour forthwith.

PLSC 204, Plant Production Systems

Semester 1 - Block 1

Degree:	BAgrSc., BAgr., PGDipAgrSc., BCom(Ag)., BSc
Examiner:	Professor Derrick Moot Room 104, Field Research Centre Extn 8990 Email: Derrick.Moot@lincoln.ac.nz
Lecturers:	Dr Alistair Black Room 108, Field Service Centre Extn 8110 Alistair.Black@lincoln.ac.nz Mr Richard Chynoweth Foundation for Arable Research Plant Science graduate students and University farm managers.
Tutors:	
Prerequisites:	PLSC 104, Plant Science 1
Office Hours:	By appointment
Research Interests:	Professor Moot has research interests in environmental effects on the growth and development of annual and perennial crop and dryland pasture plants. Dr Alistair Black has research interests in forage crop production, pasture legumes and conserved feed. Mr Richard Chynoweth is a expert in ryegrass physiology and cereal production.

Course aims and learning outcomes

Prescription:

Factors influencing pasture growth; Pasture establishment, management and productivity. Pasture quality; Pasture species and cultivar use; Conservation of herbage. Principles of soil tillage, crop establishment, seed quality; Principles of soil fertility maintenance, irrigation; Management and quality control of cash crops and herbage seeds; Management of Lucerne and forage crops.

Aims:

To provide students with an understanding of the principles of pasture and crop production and management in New Zealand.

Key Objectives:

The student will be able to:

- describe the relationship between pasture and crop production and environmental factors.
- Describe how to establish and manage perennial pastures in sustainable animal production systems.
- Describe how to grow profitably the main cash and forage crops used in New Zealand.
- Assess the technical efficiency of a pastoral or cropping enterprise and suggest methods for improvement where necessary.
- Identify those plants listed in the course outline.

Contribution to the degree programme:

This subject is the core pasture and crop husbandry subject for all undergraduate agricultural degrees.

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

1. Describe and explain the philosophical, scientific and ethical principles underlying agricultural science research.

Skills

1. Demonstrate ability and willingness to learn and appreciate that learning continues throughout life.
2. Extrapolate from knowledge and principles to solve new problems.
3. Locate, evaluate and use information in a range of contexts.
4. Recognise his or her limitations of knowledge about agriculture and agricultural science and a willingness to seek help when these limitations are met.
5. Be organised and manage time and resources effectively and efficiently
6. Demonstrate critical thinking by weighing, evaluating and integrating new information into his or her understanding of issues.

7. Manage uncertainty in scientific interpretation and decision-making and their application to agriculture and agricultural production, by applying the appropriate awareness and skills.
8. Facilitate the learning experience of individuals, groups and communities, both within and beyond the agriculture sector.
9. Evaluate his or her own professional functioning and to act to remedy limitations of knowledge, skills and attitudes throughout his or her career.
10. Co-operate with colleagues, competence in teamwork and an understanding of the roles of other agriculturalists, producers and industry representatives.
11. Communicate effectively with individuals, groups and communities, both within and beyond the agriculture sector.

Values

1. Show commitment to the fundamental importance of the interdependence between research and scientific knowledge in agriculture.
2. Behave ethically, based on a well-developed awareness of his or her own moral values, and knowledge and application of principles of ethics.
3. Demonstrate a sense of social responsibility and an understanding of the contribution of agriculture and food production to the welfare of humanity.
4. Appreciate the global perspective of agriculture, an informed sense of the impact of the international community on New Zealand and New Zealand's contribution to the international community.

Learning and Teaching Arrangements

Learning and teaching approach

Material is presented in formal lectures and field laboratories and informally on field trips and the North island tour. Material is usually delivered in verbal form with students expected to take notes.

Online learning activities

Formally registered students in this course will be able to access the course *Learn* site via http://learn.lincoln.ac.nz

Some lecturers may place copies of notes on Moodle. Professor Moot will not.

Face-to-face learning activities

Lecture times	***Day***	***Time***	***Room***
	Mon, Wed, Fri	9.00-10.00am	C2
Laboratories	***Day***	***Time***	***Room***
	Friday	12.00-2.00pm	FRC/C2/AD
Field trips (Refer to Appendix B also)	***Day***	***Time***	
	All field trip days	8.25am-4.30pm	

Office hours	*Day*	*Time*	
	By appointment		

Teaching on field trip days

Field trips days will involve interdisciplinary field trips which are compulsory for students taking this course and MGMT201.

Student workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

Assessment

Formal assessment items

Two mid-term tests 2 x 15%
Practical examination 20%
Final written examination 50%

Assessment	Due date	Weighting %	Learning outcomes covered	Key resources
Mid-term tests	As scheduled	2 x 15%	Synthesis agricultural science material	Notes and text
Practical test	As scheduled unless wet	20%	Practical aspects of plant science related to agriculture	Notes, texts, field trip and lab material
Final exam	As scheduled	50%	All of those listed	Notes and text

Penalties and mandatory course requirements

Policy on mandatory components - Students are encouraged to sit all assessed components of the subject. Full marks allocated to components will be deducted for omitted components.

Policy on scaling – Subject is not scaled.
Calculators - Lincoln restricts the types of calculators allowed to be used in University tests and examinations. If calculators are required, they must be from the Casio FX or Sharp EL range.

Dictionaries - Dictionaries may NOT be used in tests and examinations for this course.

Course Content

Field trips:
1 Irrigated sheep property
2 Sheep and cattle hill country
3 Sheep and beef mixed

The aim of these field trips is to provide an on-farm demonstration of the principles covered in the lectures and laboratories. These trips also demonstrate the main farming systems conducted in the Canterbury region and form the basis for comparison with the properties studied on the North Island Field Tour.

Field Tour:

There is a four day North Island interdisciplinary field tour in April. Attendance on the interdisciplinary field trips and the North Island Tour is required for students doing this course plus any of ansc213, or mgmt201 . The tour takes place in the last week of Term 1. If you are not enrolled in MGMT201 but intend to go on tour then you need to let us know by the end of week two so we can make arrangements.

Tour Aims:
1 to extend knowledge of farming systems and environments
2 to compare and contrast new knowledge and technology with that established from previous case studies
3 To study aspects of agriculture/horticulture not covered in previous case study work, especially typical North Island hill country
4 To establish a knowledge for future comparison and more advanced study.

Feedback Opportunities:

Students will be asked to complete the student structured feedback form in the last week of the semester. The first test will provide feedback on student writing skills in this subject.

Evaluation methods/dates: See course schedule.

Textbooks:

Recommended for purchase:

NZ Pastures and Crop Science by James White and John Hodgson.

'Pasture & Supplements for Grazing Animals'. NZ Soc. of Animal Production. Occ. Pub. No. 14 Legumes for Dryland Pastures. (ed.) D.J. Moot.

Pasture and Forage Plants for New Zealand by Charlton & Stewart.

Reading List:

Recommended reference and supplementary reading –

Proceedings of the NZ Agronomy Society and associated special publications.

NZ Journal of Crop and Horticultural Science.

Proceedings of the NZ Grassland Association

NZ Journal of Agricultural Research

Ryegrass endophyte: an essential New Zealand symbiosis

Library Resources:

Refer to above reading list.

Appendix A - Universal Regulations, Policies and Support

Late Start of Course

It is the student's responsibility to catch up - the course lecturer is only required to provide a course outline and a full set of all class handouts to date.

In the assessment of such students the course examiner will normally assume that they have been present from the outset - for any course exercises and tests due before they joined they will therefore be given nil marks. Students who appeal this policy to the Dean, Faculty of AGLS, may be granted assessment credits if they are able to provide other evidence of attainment in areas already tested.

Cheating and Plagiarism

The penalties for any form of cheating or plagiarism, whether in exams or term work, are severe. Written work submitted must be your own. Any sources of information used in completing your work must be identified. Plagiarised written work will not be accepted and you should be aware that non-acceptance of a submission might, in some cases, lead to failure in the course. Lincoln University Regulations F (Calendar 2012) spell this out in more detail under 'Dishonest Practice and Breach of Instructions' and students should also refer to http://learn.lincoln.ac.nz for further information regarding the University and Faculty's policy on dishonest academic practice.

The University reserves the right to check the originality of any work submitted by a student. Lincoln University has subscribed to a software programme called Turnitin that helps to identify material that has been copied from other sources. An electronic version of any item of a student's work might be submitted to Turnitin.

Formal Examination Rules

Examinations are governed by the rules outlined in the document located on the Lincoln website at:
http://learn.lincoln.ac.nz/learn/file.php/1/Exam_Rules_master_as_at_27_05_10.doc .
Students should note in particular the rule regarding the prohibited use of cell phones, electronic dictionaries or other electronic devices.

Policy on scaling and any other relevant issues

In the case of accepted aegrotat applications etc., scaling will be conducted with reference to other achievements of both the student and the overall class.

Prior Approvals for External Contacts/Surveys

As a student at Lincoln your actions reflect on the integrity and professionalism of not only yourself, but also your fellow students and the University. For this reason, prior approval must be obtained from the examiner before you contact any organisations for information or research requirements related to this course.

Library Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

To find out more, log into the website at http://library.lincoln.ac.nz or visit the iZone in the Library. iZone staff will provide help with finding and using information in assignments, referencing, Endnote and computer problems.

Inclusive Education

Inclusive Education supports students with a disability, injury or illness. Its goal is to lessen the impact of a condition or situation on study and assessment. Students with a wide range of long-term impairments, such as sensory issues, a specific learning disability or medical and mental health conditions, obtain appropriate strategies to enable them to show their ability. Support is also available for those with short-term situations such as a cold, a broken arm or bereavement. For appointments, phone: 325 3838 extension 8866 or e-mail inclusive@lincoln.ac.nz. The Inclusive Education Co-ordinator's office is Hud 003, at the south end of Hudson Hall (near the hedge).

Appendix B - Code of Conduct – Trips, tours and other external activities

1.0 General

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(c) wilfully impede the activities of the University, whether in teaching, research, or otherwise;

(d) wilfully create any nuisance in or on the University precincts;

(e) wilfully obstruct any officer or member of the University or any person employed at the University in the due performance of the functions or of the work that officer or other member or person is required to perform;

(f) be in part of the University precincts in which that student is not at the time, entitled to be, knowing that he or she is not entitled to be there at that time;

(g) fail to comply with the directions on any notice erected with the authority of the Council relating to the entry, speed or exit of vehicles, and the location of parking spaces;

(h) commit a breach of any University statute or regulation or of any rule of conduct made by any person authorised by the Council or the Academic Board to make such rules, provided that the statute, regulation or rule has been published in the University Calendar or that reasonable notice thereof has been given by other means to students generally or to the student charged with misconduct, before the misconduct is alleged to have taken place;

(i) harass any member of the University with offensive or unwanted sexual or non-sexual behaviour which limits his or her capacity to study or to enjoy the University amenities;

(j) commit any dishonest or improper practice in relation to formal examinations, tests or other work being taken for credit;

(k) knowingly fail to comply with any reasonable direction given to that student by the person in charge of a group of students going to, engaged in, or returning from a field trip or any other academic activity conducted by the University beyond the University precincts, or, while a member of such a group, do anything which would constitute misconduct if done within the University precincts.

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8.0 Breaches

Breaches of the regulations will result in the student being reported to the University Proctor.

9.0 Termination

Where the staff member in charge of the field trip or tour considers any student is guilty of serious misconduct he/she may require that student to leave the field trip or tour forthwith.

Department of Agricultural Sciences
Field Service Centre

Plant Identification

Students should be able to identify the following plants:

Grasses
Native tussocks (hard or fescue, silver, snow, red)
Perennial type ryegrass
Annual type ryegrass
Cocksfoot
Timothy
Phalaris
Crested dogstail
Tall fescue
Yorkshire fog
Browntop
Sweet vernal
Chewings fescue
Notodanthonia
Paspalum
Kikuyu grass
Prairie grass
Bromus spp.
Vulpia
Barley grass
Poa annua
Couch
Wild Oats

Legumes
White clover
Red clover
Caucasian clover
Sub clover
Suckling clover
Cluster clover
Balansa clover
Lucerne
Lotus major & Lotus corniculatus
Peas
Tagasaste

Crop Plants
Wheat
Barley
Oats
Ryecorn
Maize
Turnip
Swede
Kale
Rape
Spuds

Weeds
Dandelion/Hawksbeard
Hieracium
Fathen
Storksbill
Shepherds purse
Hedge mustard
Yarrow
Docks, Wireweed, Sorrel
Chickweed(s)
Nightshade(s)
Buttercup(s)
Thistles: Californian, Scotch and Nodding
Speedwell
Mallow
Gorse, broom
Matagouri

Herbs
Chicory
Narrow (and broad) leaved plantain

Students who can identify **all** of these plants will probably score an A grade or better.
Students who cannot identify at least half of these plants will probably fail.

PLSC 204; Plant Production Systems Lecture
Field Laboratory and Field Trip Schedule

Week	Day	Date	Time	Staff	Place	Topic
1	Mon	17/2	9.00	DJM	C2	Course introduction
	Wed	19/2	9.00	DJM	C2	Natural resources of Canterbury
	Fri	21/2	9.00	DJM	C2	Pasture production
	Fri	21/2	12.00	RC/AB/DM	FRC/FAR	Species identification/cropping farm
2	Mon	24/2	9.00	DJM	C2	Pasture production by environment
	Wed	26/2	9.00	DJM	C2	Pasture production by location
	Fri	28/2	FTD	AB/DM	Farm	Irrigated Sheep
3	Mon	2/3	9.00	DM	C2	Dryland pastures
	Wed	4/3	9.00	DM	C2	Lucerne
	Fri	6/3	9.00	DM	C2	Lucerne
	Fri	6/3	12.00	RC/AB/DM	FRC/FAR	Species identification/cropping farm
4	Mon	9/3	9.00	DM	C2	Topography
	Wed	11/3	9.00	AB	C2	Pasture grasses
	Thur	12/3	8.30	DM/AB	Farm	Banks Peninsula - Field trip
	Fri	13/3	9.00	AB	C2	Pasture grasses
	Fri	13/3	12.00	AB	C2	Pasture legumes
	Fri	13/3	1.00	AB	C2	Pasture legumes
5	Mon	16/3	9.00	AB	C2	Endophytes
	Tues	**17/3**	**5.30**			**Test 1 (15%) – weeks 1-4**
	Wed	18/3	9.00	AB	C2	Endophytes
	Fri	20/3	9.00	AB	C2	Endophytes
	Fri	20/3	12.00	AB	C2	Pasture assessment
	Fri	20/3	1.00	AB	C2	Pasture assessment
6	Mon	23/3	8.00	DM/TM/AB	NI	NI Tour

Mid Semester break (8/4-26/4)

7	Mon	20/4	9.00	AB	C2	Grazing management
	Wed	22/4	9.00	AB	C2	Grazing management
	Fri	24/2	9.00	AB	C2	Grazing management
	Fri	24/2	12.00	RC	C2	Crop production principles
	Fri	24/2	1.00	RC	C2	Crop production principles
8	Mon	27/4				**ANZAC day – no class**
	Wed	29/4	FTD			
	Fri	1/5	9.00	RC	C2	Herbage seeds- grasses
	Fri	1/5	12.00	RC	C2	Herbage seeds - legumes
	Fri	1/5	1.00	RC	C2	Arable Crop
9	Mon	4/5	9.00	RC	C2	Arable Crops
	Wed	6/5	9.00	RC	C2	Arable Crops
	Fri	8/5	9.00	AB	C2	Forage Crops
		8/5	12.00	AB/DM	AD/FRC	Forage crops/Pasture assessment
10	Mon	11/5	FTD			
	Tues	**12/5**	**5.30**		**tba**	**Test 2 (15%) weeks 5-9**
	Wed	13/5	9.00	AB	C2	Forage crops
	Fri	15/5	9.00	AB	C2	Forage crops
	Fri	15/5	12.00	AB/DM	AD/FRC	Forage crops/Pasture assessment
11	Mon	18/5	9.00	AB	C2	Forage crops
	Wed	20/5	9.00	DJM	C2	Pasture establishment
	Fri	22/5	9.00	DJM	C2	Pasture establishment
	Fri	22/5	12.00	DJM AB/DM	FRC	**Prac test! (20%)**
12	Mon	25/5	9.00	DJM	C2	Pasture establishment
	Wed	27/5	9.00	DJM	C2	Forage conservation
	Fri	29/5	9.00	DJM	C2	Forage conservation

	Fri	29/5 29/5	12.00 1.00	DJM DJM	C2 C2	Forage conservation Exam revision

FRC= Field Research Centre AD = Ashley Dene FAR= Cropping farm

Example of tests

PLSC 204 Test #1 2018

You are required to answer **BOTH** questions:

1 Compare and contrast perennial ryegrass, cocksfoot, tall fescue and timothy as sources of feed for grazing animals. The properties of each species that should be considered are rate of establishment, dry matter production, persistence, nutritive value and compatibility with other plant species in a pasture mixture.

2 EITHER

a) Explain how light, temperature and moisture affect pasture production in at least two different locations in New Zealand. Use quantified examples and diagrams to illustrate your answer.

OR

b) Use your knowledge of the life cycle of subterranean clover to explain how you expect it to recover this autumn. Use the diagram below to estimate the yields you would expect to accumulate from these pastures by spring 2018 and explain the cause of the yield variations in Figure 1.

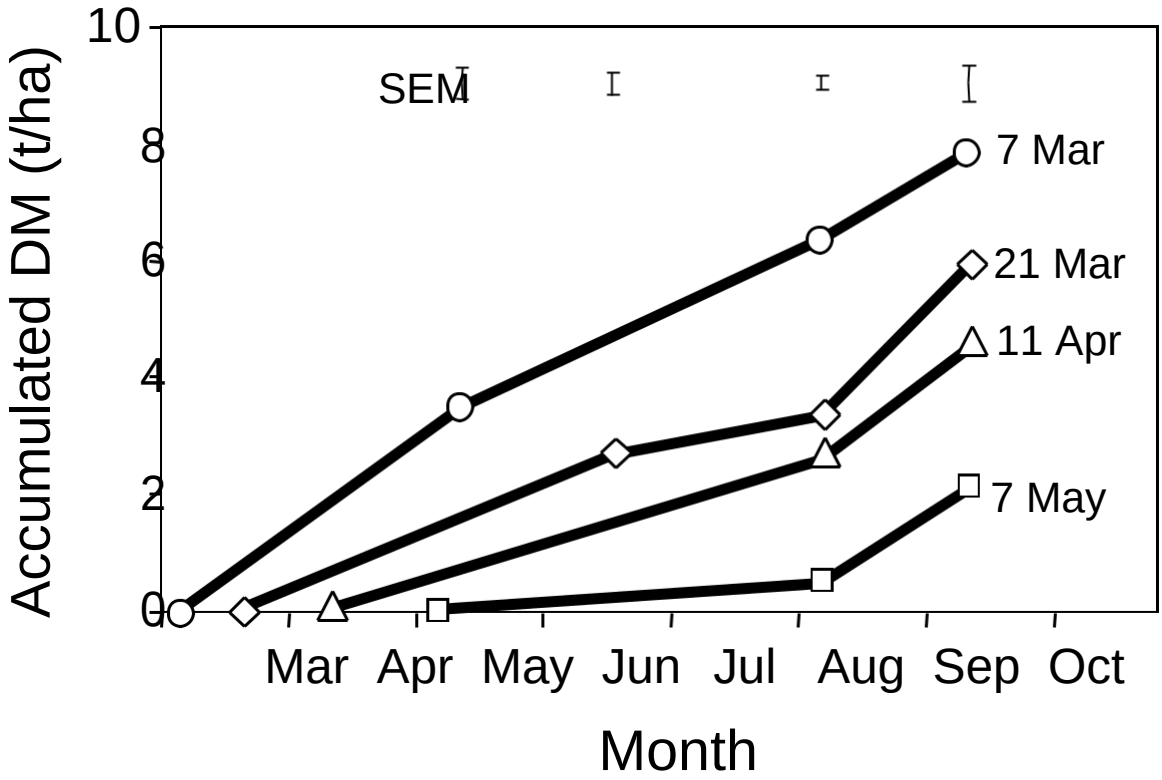

Figure 1. Accumulated dry matter yields (kg DM/ha) of subterranean clover monocultures after emergence due to rainfall on different autumn dates.

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND
New Zealand's specialist land-based university

Dept of Agricultural Sciences
Faculty of Agriculture and Life Sciences

QMET201 Biometrics
Summer School Jan 2020

Examiner/Lecturer	Simon Hodge **Room**: JBB 014 **Building**: NRE 182 **Ph:** **Email:** hodges@lincoln.ac.nz
Course Prescription	Populations and samples, estimation, sampling methods and experimental design, correlation, regression, t-tests and analysis of variance. An introduction to computer packages used in data visualization and data analysis.
Prerequisites	Five level-100 courses
Recommended Preparation	None
Restrictions	None

Course Aims and Learning Outcomes

Aims

The main aims of this course are:

1. To help students appreciate the role that statistics plays in research
2. To teach students how to use appropriate methods of analysis for a number of commonly encountered situations

Learning outcomes

After successfully completing this course students will be able to:

Knowledge

K1: Describe the principles of good experimental design.

K2: Identify appropriate statistical methods to analyse data obtained from a range of experimental scenarios.

K3: Understand statistical terms and numerical information found in scientific literature.

Skills

S1: Design good scientific studies.

S2: Use the statistical software package, Excel and Minitab to produce numerical summaries and graphical displays of biological data.

S3: Use Minitab to perform appropriate statistical analysis of biological data.
S4: Interpret and report the results from statistical analyses.

Values

V1: Show an awareness and understanding of the connection between data collection and analysis and scientific rigour of biological investigations.
V2: Be able to constructively criticise experimental designs and statistical analyses described in scientific literature.

Course Content

The following table gives an indication of the timing of the content for this course. It may be necessary to make adjustments to the timetable.

Week – commencing	Lecture Topics	Lab Topics
1 6th Jan 2019	Introduction Types of data Data summaries: averages Data summaries: variation	 Intro to Excel & Minitab Numerical summaries
2 13th Jan 2019	Goodness of fit Probability and Significance Hypothesis Testing Data Distributions	Goodness of fit Discrete data distributions
3 20th Jan 2019	Normal distribution z-tests One sample t-tests Two sample t-tests	Normal distribution, z and t scores t-tests
4 27th Jan 2019	Oneway ANOVA Multiple comparisons Multi-factor ANOVA Experimental design	ANOVA I ANOVA II
5 3th Feb 2019	Associations: Chi-squared Relationships: Correlation Relationships: Regression Non-parametric statistics	Association and relationships Non-parametrics

Learning and Teaching Arrangements

Learning and Teaching Approach

The learning and teaching approach is based on a combination of face-to-face lectures, interactive computer laboratories and on-line resources from the course website. Students are strongly advised to make full use of all available learning opportunities.

Face-to-face Learning Activities

There will be four lectures a week, on Monday, Tuesday, Wednesday and Thursday. Please ensure you attend the two lab sessions a week (there are two 2hr lab sessions per week; Tuesday and Thursday).

Lectures

Day	*Time*	*Room*
Monday	11.00 – 12.00	AER009
Tuesday	11.00 – 12.00	AER009
Wednesday	11.00 – 12.00	AER009
Thursday	11.00 – 12.00	AER009

Labs

Day	*Time*	*Room*
Tuesday	13.00 – 15.00	D3
Thursday	13.00 – 15.00	D3

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Lecture Notes

Lecture notes will be posted on LEARN. It is important to note that the images shown in lectures will not all be available in the PDFs of the notes, as copyright regulations prevent this. Some readings will be placed on the relevant LEARN site.

Equipment to purchase

Calculators may be needed, bur most analysis will be undertaken on computer software.

Teaching on Field Trip Days

Face-to-face activities and office hours ***will*** be held on field trip days (labs only, not lectures). Any student who feels that they might be disadvantaged by this should contact the examiner so that alternative arrangements can be made.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:			
Assessment	**Weighting**	**Due date**	**Learning outcomes covered**
Lab classes Online assessment Data analysis project	10% 20% 20%	TBC TBC TBC	K1-K3, S1-S4, V1, V2
Final Exam	50%	TBC	K1-K3, S1-S4, V1, V2

Assessment Summaries

Coursework Assignment

The *written* assignment 3 is to be submitted by TBC on TBC. The assignment is to be completed individually. The assignments combined contribute to a maximum of 50 percent of the final grade. Instructions will be made available on the course webpage.

Final Examination

The final examination is 3 hours in duration. Material covered during lecture, self-study and online material, review material, assigned readings and supplementary material are examinable unless otherwise stated by the Examiner.

Penalties

Students who do not submit a reasonable attempt of the following items of internal assessment may be awarded a grade of NC (Not Complete): Coursework Assignment.

Mandatory Course Requirements

The following assessment items are mandatory. Failure to submit these items will result in the student not being eligible to achieve a passing grade in this course.

Course Assignments
Final Exam

Late Submission of Assessment

Unless alternative arrangements have been made with the Examiner, items of assessment that are submitted after the due date and time will be awarded a penalty. University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations*.

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate the course at the end of the semester.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

The following time-use guidelines are provided as an example of how the 150 hours may be allocated in this course.

Contact Hours	**Total hours (over semester)**
Face to face contact, e.g. lectures, laboratories	40
Non-contact Hours	
Self-directed learning, e.g. study, projects, test and exam prep	110
Total Student Workload	**150**

Student Help and Support

Library, Teaching and Learning

The Learning and Teaching team in Library, Teaching and Learning offers free programmes and resources that can help you to succeed in your studies. The Learning Advisors provide workshops, individual appointments and resources for students who would like to further develop their academic writing, study, and mathematics / statistics skills.

http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

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A Student Rep's role is to facilitate communication between the students and the University. They can help with matters relating to the course (assessment, lectures, etc.) and can also assist with the appeals

procedure. Your student rep should make her/himself known at the start of each semester.

LUSA - Student Advice and Support

The student advice and support that LUSA offers is separate from the University and is completely confidential. The team can provide advice on a range of issues and can assist in representation in any formal appeals process. http://www.lusa.org.nz/sas

Appeals Procedure

The appeals framework is designed to enable students grievances to be addressed and resolved as close to the level at which they arose. Students are advised to contact LUSA or their student rep in the first instance.

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND
New Zealand's specialist land-based university
Department of Soil and Physical Sciences
Faculty of Agriculture & Life Sciences

SOSC 224 Soil Management
Semester 1, Block 4, 2020

Examiner	Prof Hong J. Di **Room**: B314 **Building**: Burns **Ph:** 4230779 **Email:** Hong.Di@lincoln.ac.nz
Lecturer/s	Dr J. L. Moir **Room** B122 **Building:** Burns **Ph:** 4230786 **Email:** Jim.Moir@lincoln.ac.nz
	Dr Henry Chau **Room**: B316 **Building**: Burns **Ph:** 4230587 **Email:** Henry.Chau@lincoln.ac.nz
	Professor K.C. Cameron **Room**: B124 **Building**: Burns **Ph:** 4230774 **Email:** Keith.Cameron@lincoln.ac.nz
Tutors	Roger McLenaghen **Room:** B127 **Building:** Burns **Phone:** 4230785 **Email:** Roger.McLenaghen@lincoln.ac.nz Josh Nelson **Room**: B123 **Building**: Burns Wing **Phone**: 4230 753 **Email**: josh.nelson@lincoln.ac.nz
Course Prescription	You will learn the principles and practices of soil management, including the interpretation of soil maps and resources, methods of soil fertility assessment, determination of fertiliser and lime requirements, effects of fertiliser on crop yield and quality, cultivation methods and effect on soil physical conditions, and principles and practices of irrigation and drainage. Students will learn through lectures, lab work and field trips.
Prerequisites	SOSC 106
Recommended Preparation	None
Restrictions	*None*

Course Aims and Learning Outcomes

Aims
The main aim of this course is to provide an introduction to the theory and practice of soil management.

Learning outcomes
After successfully completing this course students will be able to:

Knowledge

K1. Describe basic methods of soil and plant analysis and their interpretation;

K2. Describe the properties and effects of different fertilisers and organic manures on plant yield and crop quality

K3. Describe the basic principles of soil water flow, yield-water relationships, irrigation scheduling and drainage;

K4. Describe the effect of cultivation on soil physical conditions and plant growth

Skills

S1. Determine basic fertiliser requirements of pastures and crops;

S2. Determine the effects of cultivation on soil physical conditions and to describe the methods available to alleviate physical problems;

S3. Interpret soil properties in the field and relate these to agricultural/ horticultural production.

Values

V1. Understand science in a real world context through exposure to industry and sectors which utilize this science.

V2. Collect, process and interpret data in a variety of contexts.

V3. Relate effectively to people from a wide range of backgrounds and communities.

V4. Use self-directed learning in later life or career development.

V5. Appreciate the key principles and practices underpinning sustainable development.

Course Content

The following table gives an indication of the timing of the content for this course. More detailed explanations of lecture topics and times for labs and lectures as well as locations are given below the time table.

Note: time table is subject to change. You will be notified in lectures, labs and per email if any changes occur.

You have to sign up for one of the 3 (or 4) available lab streams on the course website on learn. You are expected to show up for the lab stream you signed up for.

Key to time table	
HJD	Lecture by Prof Hong J Di
JLM	Lecture by Dr Jim L. Moir
HC	Lecture by Dr Henry Chau
KCC	Lecture by Prof Keith Cameron
FTD	Field trip day – no lecture or lab

Lecture Timetable

Week	Commencing		Lecture 12.00-12.50 pm	
	Day	**Date**	**Location C2**	**Topic**
1	Mon	17/2	HJD1	Soil fertility evaluation and nutrient management
	Tue	18/2	HJD2	Soil fertility evaluation and nutrient management
	Thurs	20/2	HJD3	Soil fertility evaluation and nutrient management
2	Mon	24/2	HJD4	Soil fertility evaluation and nutrient management
	Tue	25/2	HJD5	Soil fertility evaluation and nutrient management
	Thurs	27/2	HJD6	Soil fertility evaluation and nutrient management
3	Mon	2/3	HJD7	Soil fertility evaluation and nutrient management
	Tue	3/3	JLM 1	Fertilisers and fertiliser use
	Thurs	5/3	JLM2	Fertilisers and fertiliser use
4	Mon	9/3	JLM 3	Fertilisers and fertiliser use
	Tue	10/3	JLM 4	Fertilisers and fertiliser use
	Thurs	12/3		No lecture - FTD
5	Mon	16/3	JLM 5	Fertilisers and fertiliser use
	Tue	17/3	JLM 6	Fertilisers and fertiliser use
	Thurs	19/3	JLM 7	Fertilisers and fertiliser use
6	Mon	23/3		No lecture; North Island Field Tour
	Tue	24/3		No lecture; North Island Field Tour
	Thurs	28/3		No lecture; North Island Field Tour
		MID-SEMESTER BREAK (30 March – 17 April)		
	Mon	20/4	HC 1	Soil water, Irrigation scheduling and drainage
	Tue	21/4	HC 2	Soil water, Irrigation scheduling and drainage
	Thurs	23/4	MST	**Mid Semester test during lecture time. Location to be confirmed.**
8	Mon	27/4		ANZAC DAY
	Tue	28/4	HC 3	Soil water, Irrigation scheduling and drainage
	Thurs	30/4	HC 4	Soil water, Irrigation scheduling and drainage
9	Mon	4/5	HC 5	Soil water, Irrigation scheduling and drainage
	Tue	5/5	HC 6	Soil water, Irrigation scheduling and drainage
	Thurs	7/5	HC 7	Soil water, Irrigation scheduling and drainage
10	Mon	11/5		No lecture - FTD
	Tue	12/5	KCC 1	Cultivation and soil physical conditions
	Thurs	14/5	KCC 2	Cultivation and soil physical conditions
11	Mon	18/5	KCC 3	Cultivation and soil physical conditions
	Tue	19/5	KCC 4	Cultivation and soil physical conditions
	Thurs	21/5	KCC 5	Cultivation and soil physical conditions
12	Mon	25/5	KCC 6	Cultivation and soil physical conditions
	Tue	26/5	KCC 7	Cultivation and soil physical conditions
	Thurs	28/5		No lecture, revision for final exam.

Lecture Program:

Soil fertility evaluation and nutrient management:

(7 lectures) (Prof H.J. Di)

Plant nutrient requirements and soil nutrient supply. Soil fertility evaluation. Calibration and interpretation of soil tests and plant analysis. Nutrient requirements of pastures and crops. Soil acidity and lime requirements.

Fertilisers and fertiliser use:

(7 lectures) (Dr J. L. Moir)

Fertiliser evaluation: nitrogen, phosphorus, potassium, sulphur, calcium and magnesium fertilisers and their use to improve yield and quality. Mixed and compound fertilisers. Organic manures, composts and their use. Slow release fertilisers. Application methods for solid and liquid fertilisers. Effects of fertilisers on pasture and crop yield and quality. Effects of mulches and organic wastes on soil physical properties and plant growth.

Soil water, Irrigation scheduling and drainage:

(7 lectures) (Dr H. Chau)

Soil water content and potential. Water flow in field soils. Plant water use, soil water balance and irrigation scheduling. Transport of pathogens from land-applied wastes, and best practices for water protection. Basic drainage concepts.

Cultivation and soil physical conditions:

(7 lectures) (Prof K.C. Cameron)

Effects of cultivation methods (ploughing, direct drilling) and crop rotations on soil physical conditions and plant growth. Identification of soil physical problems. Effects of waterlogging in soils. Restoration of damaged soil (subsoiling, green manures etc).

Laboratory Timetable

Week commencing	Monday 3.10 in B233	Wednesday 3.10 in B233	Thursday 3.10 in B233
17 February			Lab 1
24 February	Lab 1	Lab 1	Lab 2
02 March	Lab 2	Lab 2	Lab 3
09 March	Lab 3	Lab 3	**FTD**
16 March	Lab 4	Lab 4	Lab 4
23 March	North Island Field Tour		
30 March	**MID SEMESTER BREAK**		
06 April			
13 April	**EASTER MONDAY**		
20 April	Lab 5	Lab 5	Lab 5
27 April	**ANZAC DAY**	**FTD**	Lab 6
04 May	Lab 6	Lab 6	Lab 7
11 May	**FTD**	Lab 7	Lab 8
18 May	Lab 7	Lab 8	Tutorial
25 May	Lab 8	Tutorial	**Lab Test**

Laboratory programme:

Lab. 1 Field trip - to examine soils and land use on Port Hills and adjacent plains
Lab. 2 Interpretation of soil maps, bulletins and land resource inventory worksheets.
Lab. 3 Soil and plant testing.
Lab. 4 Fertiliser recommendations.
Lab. 5 Fertiliser reactions in soil and movement.
Lab. 6 Irrigation scheduling.
Lab. 7 Assessment of soil physical conditions.
Lab. 8 Waterlogging in soils.
Field trips/tours: One 3 hour field trip during lab 1.

Learning and Teaching Arrangements

Learning and Teaching Approach

This course is taught in a lecture form. Each week there are three 1-hour lectures, additionally there is one 2.5-hour laboratory per week (3 (or 4) streams).

During both lectures and labs questions and discussion are encouraged. Obviously the labs however are more interactive and provide a chance (and time) to ask more questions and discuss aspects of the course in more detail.

The teaching approach for this course attempts to target a range of learning styles – visual, aural, kinaesthetic (hands-on), as well as blending the traditional lecture / laboratory format with on-line learning and assessment.

Face-to-face Learning Activities

Lectures

Day	*Time*	*Room*
Monday	12.00 pm	C2
Tuesday	12.00 pm	C2
Thursday	12.00 pm	C2

Labs

Day	*Time*	*Room*
Monday	3.10 pm	B233
Wednesday	3.10 pm	B233
Thursday	3.10 pm	B233

Online Learning Activities

Formally registered students in this course will be able to access the course *LEARN* site via http://learn.lincoln.ac.nz.

Self-study material, review material, other relevant course material, and assessment activities will be made available on the course webpage. The course webpage will also be used as a means of communication with the class and students are advised to check the site and their "@lincolnuni.ac.nz" email regularly.

Study material

For the lectures and reading:

Recommended purchase: McLaren, R.G. and Cameron, K.C. 1996. Soil Science: Sustainable production and environmental protection. Oxford University Press, Auckland.

Online resources: Diagrams accompanying selected lectures of will be posted online, you are advised to have these downloaded on laptop/ipad or printed before the lecture. Previous tests/exams/revision questions, some lecture notes and possibly other useful resources will also be posted online.

For the laboratories:

Laboratory manual (either purchase from bookshop or print from learn. A printed version is mandatory as electronic devices might get wet/muddy and therefore should not be used during laboratories).

The laboratory course is designed to complement the knowledge gained in the lecture program. Labs are compulsory and you **must** have a printed copy of the manual.

Lab coat (available from bookshop – mandatory)

Other learning activities

Field trip

All SOSC224 field trips will be held during laboratory times. There is no teaching (no lectures and/or labs) on field trip days.

Teaching on Field Trip Days

Face-to-face activities and office hours ***will not*** be held on field trip days. Any student who feels that they might be disadvantaged by this should contact the examiner so that alternative arrangements can be made.

Assessment

Formal assessment items

The schedule of assessment activities and their contribution to the overall mark for the course is as follows:

Assessment	Weighting	Due date	Learning outcomes covered	Key resources
Mid-Semester test	20%	Thursday 23 April (12pm)	1,2,3	Lecture notes and diagrams and tables resources; laboratories 1-4 only and LEARN site.
Laboratory test	20%	Thursday 28 May (time TBA)	1 to 6	Laboratory notes, Course notes and LEARN site;
Final exam	60%	TBA	1 to 6	Course notes, Lecture notes, Diagrams and tables resources. Laboratories and LEARN site

Penalties

In order to be awarded a pass grade in the course students must attain 50 percent or more in the course overall.

Mandatory Course Requirements

Laboratories are compulsory, with attendance monitored by way of attendance sheets at each session. **Failure to attend laboratories and the field trips will jeopardise your chance of passing the subject**. Repeating students should consult with the course administrator regarding advice on a partial waiver.

Internal assessment

Your presence at tests is mandatory. Due to the size of the class we can not arrange for any student to sit the test outside the actual test time (unless this is pre-arranged through inclusive education). Aegrotat applications will not be taken lightly. Non-attendance at a test will result in a 0 mark unless a legit, valid, reasonable and proven excuse is given on the aegrotat applications.

E.g. Booking a flight home for the mid semester break before the mid semester test is not a legit reason for missing a test.

Final examination

University regulations apply for the final examination.

Academic Dishonesty

The examiner will apply the discipline regulations to any incidents of academic dishonesty, e.g. cheating or plagiarism. Your attention is drawn to the *Universal Course Regulations and Policies*

Office Hours and Feedback Opportunities

Feedback Opportunities

Feedback is welcomed and appreciated throughout the semester. Contact information for staff is provided at the top of this course outline. Students may give feedback in any format you feel comfortable with (e.g. in person, with a support person, through a student rep, via a note, or email). Constructive feedback is welcomed and appreciated throughout the semester to allow the Examiner to improve the course and their lecturing style. There will be an opportunity to formally evaluate both the course and the Examiner at the end of the semester.

Health and Safety off-campu

Field Trips: full details will be provided separately. Refer to the Code of Conduct for Trips, Tours and other External Activities.

Student Workload

The total student workload of 150 hours in this course represents the minimum amount of time that an average or B grade student might be expected to spend in tuition and applied learning to receive a passing grade. The total student workload for a course is not spread evenly from week to week and students are expected to proactively manage their workload through the semester. Achievement in a course is based on how well a student performs, not on the time committed to studying the course. No matter how many hours a student puts into this course, he/she is not guaranteed a pass.

Contact Hours	**Total hours (over semester)**
Face to face contact, e.g. lectures, tutorials, field trips, exams	60
Non-contact Hours	
Self-directed learning, e.g. study, projects, test and exam prep	90
Total Student Workload	**150**

7

Student Help and Support

Library, Teaching and Learning

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http://www.lincoln.ac.nz/Student-Life/Study-Resources/Library-Teaching-Learning/

Faculty Student Liaison (delete if not applicable)

The role of the Student Liaison is to provide additional support to students and guide them to appropriate University support. If you believe you would benefit from additional support or just need someone to talk to please contact <name> – they are here to listen to you and help. <name> can be found in <location> or contacted on <email@lincoln.ac.nz>.

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